Medical Lib.
SEP 19 1927

THE BOSTON Medical and Surgical JOURNAL

Owned and Published by the MASSACHUSETTS MEDICAL SOCIETY

OFFICIAL ORGAN OF THE NEW ENGLAND SURGICAL SOCIETY, THE BOSTON SURGICAL SOCIETY, INC., THE NEW ENGLAND PEDIATRIC SOCIETY, AND THE NEW HAMPSHIRE SURGICAL CLUB

Volume 197, Number 11 | SEPTEMBER 15, 1927 | Published Weekly in Boston at 126 Massachusetts Avenue

$6 per Annum, 25c per copy

CONTENTS

MASSACHUSETTS MEDICAL SOCIETY

SECTION OF TUBERCULOSIS

The Tuberculosis Situation in Massachusetts. *Henry D. Chadwick* 415

Treatment of Pulmonary Tuberculosis. *Ernest B. Emerson* 419

Incident of Contagious Diseases in Sanatoria. *Earle C. Willoughby* 422

Sanatorium Treatment of Extra-Pulmonary Tuberculosis. *Leon A. Alley* 424

Concerning the Admission of Non-Tuberculous Patients to a Tuberculosis Hospital. *H. S. Wagner* 426

Pleurisy with Effusion. *Otis S. Pettingill* and *A. H. Stanhope* 428

ORIGINAL ARTICLES

Suppression of Kidney Function Following Absorption of Bichloride of Mercury. *William A. Flynn* 436

CASE RECORDS OF THE MASSACHUSETTS GENERAL HOSPITAL

Case 13371—Heart Symptoms in a Syphilitic. *Richard C. Cabot.* Case 13372—An Unusual Lesion of the Spinal Cord. *W. Jason Mixter.* 437

EDITORIALS

Free Medical Service. Are There Any Remedies? 447

An Important Report on Cancer 448

The Toxicology of Carbon Monoxide 449

An Attempt at Intimidation 449

This Week's Issue 449

(Contents continued on next page)

THE NEXT ANNUAL MEETING OF THE MASSACHUSETTS MEDICAL SOCIETY WILL BE HELD IN BOSTON, THE SECOND WEDNESDAY IN JUNE, 1928, "UNLESS OTHERWISE ORDERED BY THE COUNCIL"

JUST READY—NEW (10th) EDITION

Howell's Physiology

Dr. Howell's "Physiology" has been a standard for 22 years. This new (10th) edition is the 33rd time the work has gone to press to meet demands of practitioners and students. Since the last edition changes in our knowledge of physiology have taken place with great rapidity. Dr. Howell has observed these changes, weighed their importance, and, where desirable, has incorporated them.

With a view of the practical application of the study, Dr. Howell has given main emphasis to facts and views which will be directly helpful in the study of general pathology. At the same time, however, he has included enough of modern research work to give an idea of the tendencies of present-day physiologic experimentation and study.

Howell's "Physiology" has gained and maintained its position because it follows the modern trend, because it is the work of an experienced teacher, because of its adherence to simplicity, and because it is kept up-to-date.

By WILLIAM H. HOWELL, M.D., Professor of Physiology in the School of Hygiene and Public Health, Johns Hopkins University. Octavo of 1081 pages, with 308 illustrations. Cloth, $6.50 net.

W. B. SAUNDERS COMPANY — **Philadelphia and London**

Entered at the Postoffice at Boston as Second Class Matter

CONTENTS

(Continued)

BOOK REVIEWS

Lippincott's Pocket Formulary. George E. Rehberger 456

The Normal Chest. J. A. Myers 456

Venereal Disease, Its Prevention, Symptoms and Treatment. Hugh Wansey Bayly 456

MISCELLANY

Connecticut Department of Health—Morbidity Report for the Week Ending September 3, 1927 454

Charles A. Dewey Fund 450

Disease Incidence in Connecticut—
For the Week Ending August 13 451
For the Week Ending August 20 452
For the Week Ending August 27 453

International First-Aid and Mine-Rescue Contest at Pittsburgh 446

New School for Social Research 446

New Step in International Relations of Physicians 449

A Study of Teaching Personnel of Medical Schools by the Association of American Medical Colleges 449

NEWS ITEMS 454

NOTICES 454

RECENT DEATHS 450

REPORTS AND NOTICES OF MEETINGS 455

The Massachusetts Medical Society

OFFICERS ELECTED BY THE COUNCIL, JUNE 7, 1927, FOR 1927-1928

PRESIDENT: JOHN M. BIRNIE, 14 Chestnut St., Springfield.
VICE-PRESIDENT: THOMAS J. O'BRIEN, 501 Beacon St., Boston.
SECRETARY: WALTER L. BURRAGE, 182 Walnut St., Brookline.
TREASURER: ARTHUR K. STONE, Auburn St., Framingham Center.

STANDING COMMITTEES FOR 1927-1928

ON ARRANGEMENTS
W. T. S. Thorndike, James Hitchcock, E. P. Hayden, H. Q. Gallupe, T. H. Lanman, F. H. Colby.

ON PUBLICATIONS AND SCIENTIFIC PAPERS
E. W. Taylor, R. B. Osgood, F. T. Lord, R. M. Green, A. C. Getchell.

ON MEMBERSHIP AND FINANCE
D. N. Blakely, Algernon Coolidge, Samuel Crowell, Gilman Osgood, Homer Gage

ON ETHICS AND DISCIPLINE
David Cheever, W. D. Ruston, S. F. McKeen, Kendall Emerson, A. C. Smith.

ON MEDICAL EDUCATION AND MEDICAL DIPLOMAS
J. F. Burnham, A. G. Howard, R. L. DeNormandie, H. P. Stevens, C. H. Lawrence.

ON STATE AND NATIONAL LEGISLATION
J. M. Birnie, E. H. Stevens, F. E. Jones T. J. O'Brien, Shields Warren.

ON PUBLIC HEALTH
Victor Safford, E. F. Cody, R. I. Lee, T. F. Kenney, F. G. Curtis.

ON PUBLIC INSTRUCTION
A. W. Marsh, W. P. Bowers, W. H. Robey, R. I. Lee, F. W. Snow, Conrad Wesselhoeft, F. S. Hopkins, W. J. Brickley.

ON MALPRACTICE DEFENCE
F. G. Balch, E. D. Gardner, F. B. Sweet, F. H. Baker, A. W. Allen.

OFFICERS OF THE SECTIONS FOR 1928

SECTION OF MEDICINE
William R. Ohler, Boston, *Chairman;* Albert E. Parkhurst, Beverly, *Secretary.*

SECTION OF SURGERY
Frederick B. Sweet, Springfield, *Chairman;* Walter C. Seelye, Worcester, *Secretary.*

SECTION OF TUBERCULOSIS
John B. Hawes, 2d, Boston, *Chairman;* Walter A. Griffin, Sharon, *Secretary.*

SECTION OF PEDIATRICS
Kenneth D. Blackfan, Brookline, *Chairman;* Joseph Garland, Boston, *Secretary.*

SECTION OF OBSTETRICS AND GYNECOLOGY
Foster S. Kellogg, Boston, *Chairman;* Frederick L. Good, Boston, *Secretary.*

SECTION OF RADIOLOGY AND PHYSIOTHERAPY
Frederick W. O'Brien, Boston, *Chairman;* William D. McFee, Haverhill, *Secretary.*

OFFICERS OF THE DISTRICT MEDICAL SOCIETIES

ELECTED BY THE DISTRICT MEDICAL SOCIETIES BETWEEN APRIL 15 AND MAY 15, 1927

BARNSTABLE—*President,* F. O. Cass, Provincetown; *Vice-President,* S. M. Beale, Sandwich; *Secretary,* J. L. Chute, Osterville; *Treasurer,* H. B. Hart, Yarmouthport; *Librarian,* E. E. Hawes, Hyannis.

BERKSHIRE—*President,* T. P. Hennelly, Pittsfield; *Vice-President,* C. H. Richardson, Pittsfield; *Secretary,* A. P. Merrill, Pittsfield; *Treasurer,* C. T. Leslie, Pittsfield.

BRISTOL NORTH—*President,* F. H. Dunbar, Mansfield; *Vice-President,* T. J. Robinson, Taunton; *Secretary,* J. L. Murphy, Taunton; *Treasurer,* J. V. Chatigny, Taunton.

BRISTOL SOUTH—*President,* P. E. Truesdale, Fall River; *Vice-President,* J. G. Hathaway, New Bedford; *Secretary and Treasurer,* G. E. Borden, Fall River

ESSEX NORTH—*President,* A. M. Hubbell, Haverhill; *Vice-President,* G. E. Kurth, Lawrence; *Secretary and Treasurer,* J. Forrest Burnham, Lawrence.

ESSEX SOUTH—*President,* E. B. Hallett, Gloucester; *Vice-President,* A. E. Parkhurst, Beverly; *Secretary,* R. E. Stone, Beverly; *Treasurer,* Andrew Nichols, 3rd, Danvers; *Librarian,* C. M. Cobb, Lynn.

FRANKLIN—*President,* A. H. Ellis, Greenfield; *Vice-President,* W. H. Clark, Greenfield; *Secretary and Treasurer,* Charles Moline, Sunderland.

HAMPDEN—*President,* E. A. Bates, Springfield; *Vice-President,* E. P. Bagg, Jr., Holyoke; *Secretary and Treasurer,* H. L. Smith, Springfield.

HAMPSHIRE—*President,* C. T. Cobb, Northampton; *Vice-President,* Werner Hiltpold, Easthampton; *Secretary and Treasurer,* L. O. Whitman, Northampton; *Librarian,* F. H. Smith, Hadley.

MIDDLESEX EAST—*President,* T. E. Caulfield, Woburn; *Vice-President,* D. T. Buzzell, Wilmington; *Secretary,* A. R. Cunningham, Winchester; *Treasurer,* Richard Dutton, Wakefield; *Librarian,* G. W. Nickerson, Stoneham.

MIDDLESEX NORTH — *President,* J. E. Lamoureux, Lowell; *Vice-President,* J. H. Lambert, Lowell; *Secretary,* T. A. Stamas, Lowell; *Treasurer,* E. J. Clark, Lowell; *Librarian,* P. J. Meehan, Lowell.

MIDDLESEX SOUTH — *President,* A. W. Dudley, Cambridge; *Vice-President,* Fresenius Van Nüys, Weston; *Secretary,* S. M. Biddle, Cambridge; *Treasurer,* Edward Mellus, Newton.

NORFOLK—*President,* M. H. A. Evans, Dorchester; *Vice-President,* Victor Safford, Jamaica Plain; *Secretary,* F. S. Cruickshank, Brookline; *Treasurer,* G. W. Kaan, Reading.

NORFOLK SOUTH—*President,* D. A. Bruce, Atlantic; *Vice-President,* G. M. Sheahan, Quincy; *Secretary, Treasurer and Librarian,* N. R. Pillsbury, South Braintree.

PLYMOUTH—*President,* J P Shaw Brockton; *Vice-President,* T. H. McCarthy, Brockton; *Secretary and Treasurer,* L. B. Packard, Brockton; *Librarian,* J. H. Weller, State Farm.

SUFFOLK—*President,* E. P. Joslin, Boston; *Vice-President,* R. L. DeNormandie, Boston; *Secretary,* A. H. Crosbie, Boston; *Treasurer,* John Rock, Boston.

WORCESTER—*President,* F. H. Washburn, Holden; *Vice-President,* A. M. Shattuck, Worcester; *Secretary,* C. A. Sparrow, Worcester; *Treasurer,* G. O. Ward, Worcester; *Librarian,* A. C. Getchell, Worcester.

WORCESTER NORTH—*President,* A. F. Lowell, Gardner; *Vice-President,* H. B. Priest, Ayer; *Secretary,* C. H. Jennings, Fitchburg; *Treasurer,* F. H. Thompson, Jr., Fitchburg.

THE BOSTON
Medical and Surgical
JOURNAL

VOLUME 197 SEPTEMBER 15, 1927 NUMBER 11

The Massachusetts Medical Society

THE ANNUAL MEETING

SECTION OF TUBERCULOSIS

TUESDAY AFTERNOON, JUNE 7, 1927

THE Section of Tuberculosis of the Massachusetts Medical Society convened in the Georgian Room of the Hotel Statler, Boston, Massachusetts, at two-thirty o'clock, Dr. Kendall Emerson, of Worcester, presiding in the absence of the Section Chairman, Dr. Adam S. MacKnight, of Attleboro, who was ill.

CHAIRMAN EMERSON: The meeting will please come to order. The first business to come before the meeting of the Section on Tuberculosis of the Massachusetts Medical Society is the appointment of a Nominating Committee to nominate officers for the ensuing year. I will appoint on that Committee, Dr. Pettingill, Chairman, Dr. Emery, of Worcester, and Dr. Smith, of North Andover. If the Committee will retire and confer on the slate, we will listen to their report shortly.

I regret to have to announce that Dr. A. S. MacKnight, Chairman of this Section, is detained at home by illness. I am sorry to make this announcement for two reasons: first, because I am sorry he is ill; and, second, because I am sorry he isn't here to appear in this position instead of myself.

It is necessary to have a figurehead to carry on this meeting and I have been slipped in for that purpose. It seems to the presiding officer that it would be an appropriate thing for a motion to be made from the floor to the effect that the Secretary be instructed to send, on behalf of the Section of Tuberculosis of the Massachusetts Medical Society, an expression of regret at the absence of Dr. MacKnight on account of illness, and the hope for his speedy recovery. Do I hear such a motion?

Upon motion regularly made and seconded, it was voted that the Secretary be instructed to send such a message to Dr. MacKnight.

CHAIRMAN EMERSON: Is the Nominating Committee prepared to report?

DR. PETTINGILL: Your Nominating Committee has met and nominates the following: Chairman, Dr. John B. Hawes, and Secretary, Walter A. Griffin.

CHAIRMAN EMERSON: Are there any further nominations? Then I await a motion that the Secretary be instructed to cast one ballot for the officers as reported by the Nominating Committee.

The motion was regularly made, seconded, and carried.

CHAIRMAN EMERSON: The Secretary has cast the ballot and I declare Dr. John B. Hawes Chairman for the ensuing year and Dr. Walter A. Griffin Secretary.

If there is no other business to come before the meeting, the business meeting is hereby adjourned and we will proceed to the scientific papers of the afternoon.

The first paper is the "Tuberculosis Situation in Massachusetts," by Dr. Henry D. Chadwick, of the Westfield State Sanatorium. Dr. Chadwick!

THE TUBERCULOSIS SITUATION IN MASSACHUSETTS

BY HENRY D. CHADWICK, M.D.

ALTHOUGH a great deal has been accomplished toward the control of tuberculosis in Massachusetts since the first sanatorium was opened in Rutland in 1898, there is yet much to be done. Last year (1926), 2961 residents of Massachusetts died from Pulmonary Tuberculosis and from other forms of that disease. This represents a death rate of 70.3 for Pulmonary and 12.5 for other forms per 100,000 population as compared with 1910, when the death rate from pulmonary was 133.2 and for other forms 25.3.

This reduction from 158.5 to 82.8 almost cuts in half the mortality for all forms of tuberculosis in the last sixteen (16) years. It is indeed a great achievement.

Lest we relax in any of our anti-tuberculosis activities, I will call attention to the fact that 1926 showed an increase of seventy-eight (78) in the total number of deaths from Pulmonary Tuberculosis as compared with the preceding year. There was, however, a reduction of forty-nine (49) in the deaths from Non-Pulmonary forms. This is the first year since 1918 when there has not been an actual decrease in the total number of deaths from tuberculosis in Massachusetts.

There was also a considerable increase in the number of deaths from pneumonia and influenza last year in the months of March and April. In April and May there was a much higher death rate from tuberculosis. It would appear, therefore, that when respiratory diseases are prevalent, the deaths from tuberculosis are increased. The number of deaths, however, in the last four months of the year 1926 were considerably lower than in preceding years and the same is true of the first months of 1927. Therefore, it is probable, if the deaths from respiratory diseases do not exceed the average number, that the death rate from tuberculosis in 1927 will show more than the average drop of about three (3) per 100,000 that has occurred each year in the last decade.

NUMBER OF KNOWN CASES

The files of the Massachusetts Department of Public Health show 27,489 reported cases with known addresses. About 8,000 more are unlocated, but the results of the Field Nurses' work so far indicate that more than 50% of these will be found. A check-up is being made to determine how many of these cases that have been reported during the past fifteen years can now be considered to have active disease. These files show more than ten (10) reported cases to one (1) death, but when the arrested cases are culled out, no doubt the ratio will be very much reduced.

The highest ratio found in Framingham in any one year during the Health Demonstration was nine (9) active cases to one (1) death. This dropped to three (3) at the end of the demonstration, which was the same ratio as the number in the files of the local Board of Health at the beginning of that survey.

SANATORIA AND HOSPITALS

In 1910 Massachusetts began, in a comprehensive way, to segregate its consumptive patients. Up to that time, there were available only 350 beds at Rutland. Then three new sanatoria were opened with 450 more beds. This number was found to be inadequate and additions were made from time to time that increased the capacity in the State Sanatoria up to 1080 beds. During this period, legislation was passed requiring the largest cities and counties to maintain hospitals for their tuberculosis cases.

The goal which the National Tuberculosis Association has set as desirable is that there should be one bed for each tuberculosis death. Massachusetts has 3,555 beds available in her institutions for the care of patients having tuberculosis. They are divided as follows:

State Sanatoria	1081
Municipal Hospitals	1067
County Hospitals	604
State Infirmary	280
Other State Hospitals	426
Private Sanatoria	97
Total	3555

There is, in addition, the United States Veterans' Hospital at Rutland with a capacity of 420 patients. This cares for many of the Massachusetts veterans. Therefore, with 2893 deaths and 3555 beds, the Commonwealth has exceeded her quota.

THE STATE SANATORIA

Rutland State Sanatorium

Rutland State Sanatorium has a capacity of 350 beds, but about 250 of these are filled by patients from Worcester and Middlesex Counties and the Hospital District of Chelsea, Revere and Winthrop. The Legislature provided that these Counties could contract with the Commonwealth for the care of all their tuberculosis patients. This leaves only about 100 beds available for patients that live in other sections of the State.

North Reading State Sanatorium

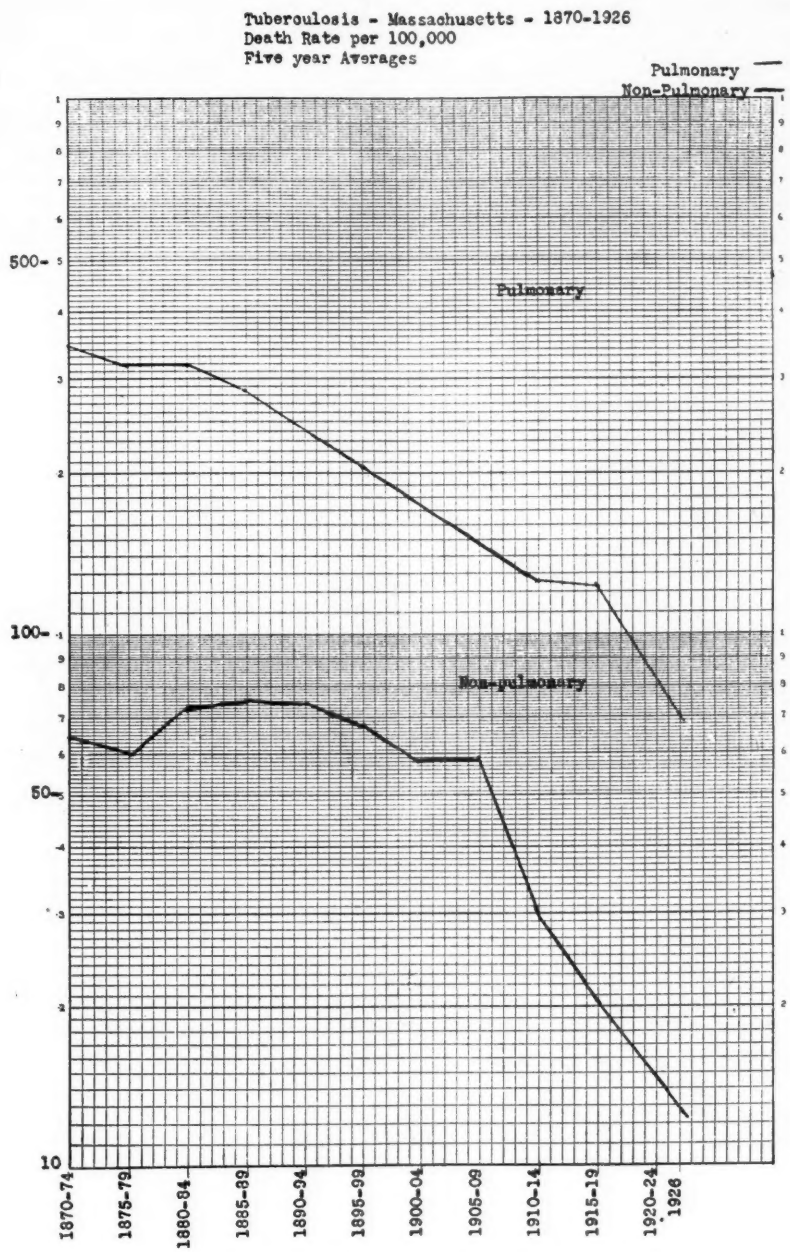
In 1926 this institution was remodeled and is now occupied by about 150 children and 50 adults. It is the intention to make this exclusively a sanatorium for children as the demand calls for it.

Lakeville State Sanatorium

Early in 1926 this institution was remodeled and the 200 beds there are devoted to the care of patients having Non-Pulmonary Tuberculosis. Special provision has been made in the construction, so that heliotherapy can be given in a most effective way. A new surgical ward is being constructed, so that such patients as require surgery may be operated upon without being removed to another hospital.

Westfield State Sanatorium

This institution has 310 beds for the care of cases of juvenile tuberculosis. Since North Reading Sanatorium was remodeled, not enough children have applied for treatment to fill both



institutions, and in order to fill the vacant beds, a few men and women have been admitted to both institutions. The admission of adults is expected to be only a temporary measure.

COUNTY HOSPITALS

Of the six (6) County Hospitals, those maintained by Essex, Hampshire and Norfolk Counties have been kept well filled and at times have had waiting lists. The hospitals maintained by Bristol and Barnstable Counties usually have vacant beds and Plymouth County Hospital has vacant beds for children. There were seventy-seven (77) vacancies in the various County Hospitals on December first.

MUNICIPAL HOSPITALS

They have a combined capacity of 1067 beds. On December first, the total number of vacancies was 165. On that date there were also 84 vacancies at the State Infirmary at Tewksbury. There are always about 300 vacant beds in the different County and Municipal Hospitals. If these could be utilized, there would be no waiting list for the State Sanatoria. Unfortunately, the beds and the waiting patients are not in the same geographical area or political unit, and, therefore, opportunity for treatment is not always immediately available.

The City of Boston has about 75 patients in

the State Sanatoria. If the proposed 100-bed sanatorium, which was recommended by Dr. Murray P. Horwood and Dr. Haven Emerson, is built, then the State Sanatoria could take care of the patients as fast as they apply for admission. In other words, there would be no waiting list if conditions remain as they are. But will they? More physicians are sending their patients to sanatoria and more patients are willing to go. Therefore, it is possible that with even a declining death rate, the demand for sanatorium care will increase instead of lessen for some years to come.

DEATHS

Of the total number of deaths from tuberculosis in the State last year, 955, or 32% of the whole number, died in sanatoria or hospitals. The hospitalization of these persons who died, and probably one-half of the other adults under treatment, kept out of the communities fully 2,000 spreaders of tubercle bacilli. The segregation of this large number of persons having active disease must have a very important influence in decreasing infection. There were, however, about 2,000 other persons who died at home. They were also spreaders of tubercle bacilli, and have, unconsciously, done much to recruit the oncoming army of the tuberculous. The physicians who cared for these cases have, we hope, done all they could to train these patients in ways of avoiding infecting their children and associates. Probably, however, much more could have been done if the cases had been reported as soon as a diagnosis was made.

REPORTING OF CASES

In the cities of the country where reporting is well attended to, the ratio is about five (5) reported cases to one (1) death each year. In Massachusetts, as a whole, in 1925 the ratio was 1.9 to each death.

In Boston recently, in a survey made by Dr. Haven Emerson, he found that 19.7% of the cases of tuberculosis were not reported until after death, and 16.7% were not reported until within one month of death. This means that about one-third of all cases are not reported in time to allow the Public Health authorities to carry out any measures for prevention.

The ratio of reported cases to deaths in the remainder of the State is a little lower than Boston. Therefore, the children and adolescents in about one thousand homes, where there is a case of advanced tuberculosis, are being given but little, if any, protection from massive infection.

Separated by Counties, the reported cases to deaths varied from one to one in Dukes County to 2.57 to one in Suffolk County.

The reporting of cases about to die, or after death, is only allowing the Public Health authorities an opportunity to render what might be called Postmortem First Aid. This, indeed, is a very serious situation.

We have found that about 50% of the children exposed to Pulmonary Tuberculosis become infected by the time they are six years old, and that one year later, at age seven, they show a high percentage of Hilum Tuberculosis.

We also find twice as many pulmonary cases in children who have been exposed to tuberculosis.

JUVENILE TUBERCULOSIS

The effect of the State Clinics carried on under the Ten-Year Program has not materially increased the number of children applying for admission to the State Sanatoria. It has, however, been the means of securing a better selection of patients. By that, I mean that more of the children going to the sanatoria are actual cases of childhood tuberculosis and are more in need of such treatment than was formerly the case. A better understanding of what Juvenile Tuberculosis is, is being brought about and greater local interest has been aroused in child-welfare work, with the result that many more children are being given thorough examinations and better supervision at home.

The rapid increase of summer camps, which are now very well managed, give a large number of children the benefits which could formerly be obtained only in a sanatorium for children.

The treatment in the summer camps is, of course, too brief to insure permanent results, unless it is followed up by home and school supervision. However, it is gratifying to note that the official and non-official agencies, who co-operate with or maintain the summer camps, are beginning to recognize their responsibility to see that these children are followed throughout the year. A noteworthy example of this are the health classes that have been organized by Dr. John A. Ceconi, the Director of Hygiene in the Public Schools of Boston. The program he has devised provides these children with the fundamentals of health,—namely, rest, fresh air and good food, without interference with their classroom work. To my mind, the plan he is carrying out is a distinct improvement over the open air classrooms and should supersede them wherever possible.

THE CONTROL OF TUBERCULOSIS

This is dependent upon two things—we must lessen the amount of infection from both human and bovine sources, and increase the resistance of children to the infection, which cannot, as yet, be prevented. By the hospitalization of open cases of Pulmonary Tuberculosis, we can lessen the foci of infection from human sources. By stopping the sale of unpasteurized milk, we can materially reduce the deaths and the crippling of children.

The children brought up on the farms are in more danger from tuberculosis of bovine origin than are the city children, because they are fed on raw milk.

Dr. Charles Mayo states that the majority of cases of tuberculosis of the neck, intestines and abdomen are found in children from the farms. It is noteworthy that 11% of the rural reactors in our Children's Clinics had enlarged glands of the neck and but 6.3% of the city children.

As pasteurization is impractical for the small farmer, it is all the more important that his cows should be tuberculin-tested and the reactors eliminated from the herd. For the protection of his own children and his customers' children, this should be done.

At the present time, twenty-one cities and towns have ordinances requiring milk that is sold to be pasteurized, except that which comes from tuberculosis-free herds. There are 1,709,000 people, or 41% of the population of the State, living in these cities and towns. In addition, it is estimated that 20% more of the people of the State obtain pasteurized milk from their dealers. Therefore, 60% of the population now have the protection afforded by pasteurization.

The hospitals report that there has been a marked decrease in the number of city children requiring treatment for tuberculous cervical glands and peritonitis since pasteurization was made compulsory.

SUMMARY OF THE TASK BEFORE US

1st. We should strive to get the physicians to report their cases of tuberculosis as soon as a diagnosis is made, that better supervision may be carried out.

2nd. Children exposed to tuberculosis should be examined, treated, if necessary, and guarded from further infection.

3rd. Hospitalization of the open cases of tuberculosis, whenever possible. If this cannot be done, children should not be allowed to have any close association with the patient.

4th. Pasteurization of the public milk supply.

5th. Elimination of tuberculosis from all the herds in Massachusetts by means of the tuberculin test and the slaughter of all infected animals.

(Applause.)

CHAIRMAN EMERSON: As there are a number of papers provided for the afternoon, the Chair will rule, unless there is objection from the floor, that the discussion of all the papers will be deferred until the conclusion of the last paper.

The second paper is "Treatment of Pulmonary Tuberculosis," by Dr. Ernest B. Emerson, of the Rutland State Sanatorium. Dr. Emerson!

TREATMENT OF PULMONARY TUBERCULOSIS

BY ERNEST B. EMERSON, M.D.

THE treatment of tuberculosis is an old text with the stress still laid on milk, eggs and climate, yet we have faith that the last word has not been said and that eventually some method or means may be discovered that will displace, or at least supplement our present resources which are, except in the method of application and the possibilities of surgery, substantially the same as in the days of the ancient Greeks.

A state of health exists when all the organs are functioning normally and in proper relation one to another. Disease follows to a greater or lesser degree our transgressions against certain natural laws; transgressions which sooner or later nature refuses to condone. This is particularly true of tuberculosis, for in no other disease does the mode of living so predispose to disaster or to demand more in retribution. Violations of the proper mode of living, irregular habits of eating, sleeping, working and playing, combined with sub-standard home conditions and occupational surroundings, conditions over which the individual may have little or no control, tend to break down the barriers during the earlier years of life, and the one outstanding disease of early adult life is tuberculosis in some one of its various manifestations. Furthermore, tuberculosis being a disease of young adults, the vicious circle is continued through ignorance and by direct contact to the following and still more susceptible generation. It is a twofold problem: the immediate care of the patient and the prevention of further spread of the disease.

Bearing in mind the predisposing causes of tuberculosis gives us a hint as to the broad general principles for the immediate and ultimate care of the patient and for the proper preventive measures. If faulty habits of living are an underlying cause, then a corrected mode of life is the logical procedure for a cure and the maintenance of health. There is no quick road to recovery and no magic in climate, drugs, serums or operative interference; they alone will avail little or nothing without some knowledge of the disease, its predisposing causes and the reasons for a mode of living with its seemingly petty details which is the treatment of tuberculosis.

An early diagnosis is frequently difficult and comes as a shock to the patient. The physician oftentimes is reluctant to commit himself for various reasons or pending the report of a positive sputum. An error in diagnosis or even a correct diagnosis may be followed by criticism and the loss of the patient; nevertheless, the earlier the patient knows his condition the better are the chances for recovery. Sooner or later he will learn the truth, and as frequently

seen among sanatorium patients, there follows a feeling of resentment which offsets any criticism of an early diagnosis or the loss of a patient in the beginning. An early diagnosis, and early treatment have long been recognized as the first essentials in the arrest of the disease. A perfectly good prescription for rest and fresh air may be thrown away simply through a lack of knowledge on the part of the patient of his real condition.

That an early diagnosis is frequently missed or that there is lack of adequate instruction and consequently an unwillingness on the part of the patient to adopt a new mode of life is evidenced by the number of advanced cases drifting into the sanatorium. Of 977 admissions to Rutland during the last two years, 520 were far advanced cases, or 53 per cent. Undoubtedly many of them had disregarded good medical advice. On the other hand, if we credit their stories many had been treated for "bronchial trouble" or a "rundown condition" over a period when they might have been arrested either in the sanatorium or at home under proper regime. These are the patients with resentment in their souls. We also recognize that many become advanced before consulting a physician. These are, however, in the minority.

In order to reach the early or suspected case, The Department of Public Health established seven years ago 16 consultation clinics to which patients might be referred for examination and diagnosis, but not for treatment. During the past five years 2785 cases have been referred to these clinics and reports sent to the attending physicians with suggestions regarding treatment. We believe these clinics have been of assistance not only in the matter of diagnosis but also in breaking the news to the patient. I believe a still closer contact should be established and that sanatoria should admit suspected cases in the same way general and mental disease hospitals admit for observation and diagnosis.

The original purpose of the sanatorium was to cure tuberculosis but it has since been shown that to accomplish this end an interminable period of residence is required, that sanatorium treatment is only the starter and that treatment, or the mode of living, must be continued for an indefinite period after leaving the sanatorium. With the discovery, if it may be so termed, that patients could be treated at home without change of climate there has been a continuous discussion both among patients and physicians as to the relative merits of home and sanatorium treatment. Both have their place and the only argument is the time the one or the other shall be prescribed.

The functions of the sanatorium are to provide adequate medical and nursing care for two groups: to educate and restore the one to a working capacity, and to provide permanent hospitalization for the other. A sanatorium providing perfunctory medical and nursing care, or in some instances merely housing for a brief period without proper instruction regarding the fundamentals of treatment, so far falls short in its obligations to the patient and to the public. Successful treatment requires mutual confidence and coöperation between the patient, the nurse and the physician, and intelligent cooperation cannot be obtained unless the patient has been taught the reasons why he should observe certain regulations that to him may appear as a petty annoyance designed only to make life as dull as possible, yet a well regulated life wherever lived is of preëminent value if anything is to be accomplished. The majority of sanatorium patients will testify to the difficulty or impossibility of carrying out the mode of life at home, and that it is far easier to follow a routine schedule when everyone else is doing the same. It is also difficult if not impossible for the majority of physicians to control the activities of the average individual under average home conditions. Many patients are averse to going to the sanatorium due to the feeling that it is a place of sickness and gloom, which really is quite the contrary, save possibly in some hospitals unfortunately tagged in the beginning for the care of terminal cases. Occasionally there are those who cannot adapt themselves and are unhappy and depressed away from home, or cannot drop home affairs. Such a state of mind probably does not favor recovery and may be an argument for home care from the beginning. However, the majority of sanatorium patients do adapt themselves and in the end are surprised at the flight of time after the first few days.

With all that has been said and written regarding tuberculosis, it is amazing how little the average individual, interested in other affairs until tuberculosis becomes a personal matter, knows about the disease, or if he has a fair general knowledge, the difficulty of applying this to his own case becomes apparent unless there is a background based on sound instruction and a practical knowledge acquired by observation and actual practice.

Rest, clean air and proper food constitute the background or arch support of tuberculosis therapy, and rest is the keystone of the arch; without rest, physical and mental, all other known measures will fail in the majority of cases of clinical tuberculosis. The patient must be taught the principles of hygienic living, the value of fresh air, sunshine, proper food, rest and exercise, and their proper place. He must be taught to avoid excesses and excitement of every description. He must be taught the reasons for sleeping alone in a properly ventilated room or porch and to regulate his life to the strictest routine, all of which is a difficult con-

tract to carry out and to keep within the family budget, with the average home facilities, to say nothing of the gratuitous advice of friends or relatives who may be deceived by the patient's apparent appearance of good health. To maintain a routine as outlined demands incessant watchfulness and attention even with a coöperative and intelligent patient, and frequently requires more time than the busy practitioner can spare.

By reason of the chronicity of the disease, home treatment at the proper time makes up the larger part of the consumptive's life. It is not necessary or wise for him to spend his days in the sanatorium unless he has arrived at that stage when permanent bed treatment is required and cannot be given at home. The real value of the sanatorium in early cases is its educational program and so far as it has failed in educating its patients, so far has it failed in the treatment of tuberculosis. While it is true that any educational effort on the part of the nurse or physician makes little if any impression with some, it is certainly fair to assume that the majority of those instructed are better able to care for themselves over a long period of convalescence, and to adjust themselves to a more or less permanent handicap after returning to an industrial life, or the maintenance of a home.

Broadly, three stages of the disease are recognized: minimal, second and third stages; the classification being based on the extent of the involvement and not on the symptoms or the degree of activity. A minimal case may present more evidence of toxicity than one with a whole lung involved and as follows may present a more doubtful prognosis. It is evident therefore that the same prescription is not applicable to two cases presenting substantially the same pathology. Exercise which is a tonic for one may aggravate the symptoms of the other; therefore, before any treatment is adopted the diagnosis must go further than to say tuberculosis is present. It must determine the degree of activity and the extent of the involvement together with a "sizeup" of the patient's general, physical and mental equipment, home surroundings and financial resources. All of these questions may be determined in the home provided there are the proper facilities for observation and care. Lacking home facilities, sanatorium treatment is indicated as the first procedure rather than as a last resort; these patients should be under supervision and a rigid routine before they have become too ill for any form of treatment except terminal care. Early home treatment in the hands of a specialist with an intelligent patient and with proper facilities is undoubtedly preferable in many instances: there is no question that in the hands of a few it has yielded brilliant results. It is not the individual, however, or the isolated case that is under discussion, but the group as a whole which must be considered.

Granting that there is no patent on the treatment of tuberculosis, what does the sanatorium offer that cannot be carried out at home? It is nothing more or less than specialized care and teaching and as in the case of all hospital treatment the convalescence and after care must be carried out at home. To the uninitiated life in a sanatorium is generally regarded as a dull existence, and an unnecessary measure, particularly by the young and ambitious. It is accepted, however, with an object in view—restored health. If to attain this object we can stimulate an intelligent interest in the ways and means, the patient derives satisfaction in every step of the process, and the tedium of hospital or sanatorium existence becomes a more or less interesting game. Planning and anticipating make up a large part of life, and measures which contribute towards one's plans and anticipations are gladly accepted, particularly if we see the reasons why. All patients want to get well but many fail to see the necessity of making the necessary effort on their part. They have been taught and have too much faith in the efficacy of fresh air, milk and eggs, and that a routine life is unnecessary, and naturally a restriction encountered is interpreted as some sort of punitive measure.

The treatment or mode of life lies between two extremes: absolute bed rest with feeding by the nurse and the use of the bed pan on the one hand, to merely observation from time to time or a camping trip in the wilderness. An early case in a young adult with fever, rapid pulse and possibly hemorrhage, requires bed rest, prolonged in many instances several months beyond the period of a normal temperature whereas, the chronic fibroid type of many years' duration may live a fairly active life, and unknown as a consumptive among his fellow-workers.

The routine followed at the Rutland State Sanatorium with all admissions is substantially as follows: on admission a bath and two weeks' bed rest regardless of the type of disease, whether acute or chronic; personal instruction by the nurse on admission, and by the physician when he makes his examination and from time to time; the case is worked up by the attending physician with a careful history, physical examination and laboratory research; after which the patient is brought before the full Staff for classification, treatment and assignment to the proper ward.

In addition to this personal instruction, a course consisting of 30 lectures or talks is given by the Staff in the Assembly Hall during the year. The following subjects are covered: history of tuberculosis, infection, subjective and objective symptoms, pathology and X-ray, laboratory, symptomatic treatment, diet, climate, sanatorium treatment versus home treatment.

mental attitude, personal hygiene, dental hygiene and misinformation. The patients are asked to submit questions in writing during the course and several evenings during the year are devoted to answering these inquiries. They are told what a cavity is, how a hemorrhage occurs, its treatment and the reasons for a regulated life. This instruction does not tend to make patients gloomy or apprehensive, on the contrary it develops a cheerful spirit of coöperation when they learn why a restricted life is an essential part of the cure. We believe that absolute frankness in talking with a patient accomplishes the best results, even to the point of telling the truth regarding a cavity. His apprehensions are allayed when he learns that all tuberculous processes are followed by cavitation. They are interested in the subject and their attendance equals their attendance at moving pictures.

The foregoing requires time and patience and is presented in support of the argument for early sanatorium education.

(Applause.)

CHAIRMAN EMERSON: The next paper will be "Incidentals of Contagious Diseases in Sanatoria," by Dr. Earle C. Willoughby, of the North Reading State Sanatorium. Dr. Willoughby!

INCIDENT OF CONTAGIOUS DISEASES IN SANATORIA

BY EARLE C. WILLOUGHBY, M.D.

THE material for this short paper comes from the experiences at the State Sanatoria which are caring for children, and with the exception of Westfield, these experiences have extended only some over a year's time.

The material on Scarlet Fever was practically all contributed by Dr. Morgan of Westfield Sanatorium. Special effort has been made to have the children who are admitted to our Sanatoria free from the so-called contagious diseases of childhood, and this may help to account for the small number affected in our Institutions.

The first disease to be considered is *Measles.* One of the Sanatoria recently had an epidemic, and of 32 cases, 28 occurred in the children's ward. Otitis media complicated 8 cases, and mastoiditis, requiring operation, 3 cases. There was one case of Chorea and one of Endocarditis, which followed shortly after the Measles.

The first case evidently infected all the children in that ward who came down with the disease. Three or four of the cases which developed the disease had a history of previous Measles. In one ward they had several small boys and only two cases; here they isolated patients as soon as they showed temperature, and without waiting for an eruption to appear. North Reading has had three cases of *German Measles,*—the first was an employe in the mechanical department. No other cases developed from it. About six months later, two other cases appeared. The source of infection in the first of these cases was not known. This case may have infected the others, though it could not be definitely traced. No other cases appeared, though without doubt the susceptible children came in contact with these cases during the infective stage, and before being isolated.

Mumps. This disease has varied in the different Sanatoria. Lakeville has had no cases. Westfield two or three outbreaks, but only a few cases at a time, and like our Institution, were annoyed by the cases developing after the usual incubation period was over. 21 d. (8-26d.)

At North Reading we have had 36 cases,—23 males and 13 females. The first case developed in the female unit in a girl eleven days after entrance. She probably contracted the disease before entrance. In fifteen days other cases developed, and from that time, for nearly six months we had mumps in the Institution.

For about eight weeks it was confined to the female unit. Then one case developed in the male unit, and 18 days later a number more of the boys in this same ward came down with mumps.

After the first wave of spread of the infection in the male unit, the remainder of the cases were either two or three at a time or isolated ones. In the first and large group of cases, the infection seemed more severe than the later ones which were very mild. The second group of mumps cases came from a child who evidently contracted the disease before coming to our Institution. Only four cases developed at this time, and we are inclined to believe that some of these were from different sources. Doubtless other susceptible children were exposed but no more cases developed and there were no complications.

From Westfield's experience, the disease appears to attack the younger children, 2 to 8 years old. The latter age was the commonest in our cases.

Whooping Cough has also varied in the different Sanatoria. Westfield and North Reading have had no cases, while Lakeville has had fifteen.

A similar condition has existed in regard to *Chicken Pox.* Westfield and North Reading have had no cases while Lakeville has had sixteen cases.

Scarlet Fever. Thus far Lakeville and North Reading Sanatoria have had no cases of Scarlet Fever. Prior to one year ago Westfield Sanatorium encountered the disease five or six times, but always in small numbers. On two or three occasions they had a case of this disease appear

in a ward without any others developing in that or any other ward. A possible explanation offered is that the fresh air and good sanitary conditions of a Sanatorium tend to check the spread of this type of disease.

Sometime ago they had a number of cases which were spread over a considerable period of time. They were peculiar in that a case would develop in one ward, then after the incubation period had passed, another case would appear somewhere else, and this same condition would be repeated, and kept going without any apparent connection between the different cases. These cases were specially investigated, and the only explanation that could be given was that these were independent cases, infection being brought in, there being Scarlet Fever in that part of the State.

The disease seems to spread fairly rapidly among children under 8 or 9 years of age. The only isolation at Westfield has been two small wards in the children's ward, and the so-called "private rooms" in the other wards. They have not assigned special nurses to the isolated cases but have relied on the nurses using gowns and disinfecting their hands properly. It seems to be their opinion that the spread of Scarlet Fever occurs not from any improper isolation but because it is difficult to find all cases, as many cases are so mild that diagnosis is impossible. In fact they have recently had two children who showed typical desquamation, but had a perfectly normal temperature for sometime and showed no other symptoms.

Dick Test. On February 13th the Dick Test was given to 264 children at Westfield; 192 showed a negative reaction and 72 a positive reaction about ¼. A smaller percentage of positive reactions were found from 11 years up; 65 of the reactors were given *Antigen.* There were no serious reactions in all of the 264 tests. At first they gave ½ c.c. of Antigen to about six cases. There were no bad results so on February 17th they gave 1 c.c. to all but seven of the reactors and repeated with another c.c. dose two weeks later. 65 were immunized and 40 had either general or local reactions.

Most of the cases had both local and general reactions. The local reaction consisted of edema and redness. Many of these reactions were quite extensive, measuring from 4″ to 6″. The general reactions consisted of one or more of the following,—malaise, head ache, fever 99+ to 101 (more of about 100). The fever lasted twenty four hours.

The local and general reactions occurred after the first injection and none were serious. Three cases gave a negative Dick test, but later developed Scarlet Fever. Five cases were given *Antigen* but had developed scarlet eruption two to fifteen days after the first immunization, and in one of these cases the eruption appeared on the day after the second immunization dose.

Error in technique has been given as a possible reason for the development of the disease in the three cases giving a negative Dick.

Diphtheria has been no problem at Westfield Sanatorium since Schick testing and immunization were commenced about five years ago, and there has been no case at Lakeville or North Reading where this procedure is carried out on all children admitted.

From March 8, 1926, to March 8, 1927, 141 children (a big majority 10 years of age or over) were Schick tested. Sixty-two of these were boys and 79 girls. Of the boys 38% were found to be susceptible to Diphtheria and 21% of the girls were susceptible. Besides the above number 90 children, being under 10 years of age, were immunized without being Schick tested. There have been 30 children under ten years of age re-Schick tested,—13 boys and 17 girls. 38% of the boys and 5% of the girls showed susceptibility to Diphtheria. Eleven children over ten years of age, who had shown a positive or combined reaction, were immunized. When re-Schick tested the boys showed 62% susceptible to Diphtheria and all of the girls showed a negative reaction. This great difference in percentage of reaction is not accounted for. There have been very few evident reactions. Two cases showed an elevation of temperature from 100.5 to 101.5 the day after they were given the Schick test.

After immunization, reactions as indicated by an elevation of temperature on the day after, were shown in nine boys. Occasionally there was local soreness at site of inoculation. The constitutional disturbances only occurred after the first inoculation. There were no serious results.

Isolation. Lakeville Sanatorium has no opportunity for isolation. Westfield has two small wards in the children's wards and so-called "private rooms" in the other wards. North Reading formerly had but one single and one double room in each unit which could be used. These were inadequate at times and they are rooms which are always in big demand. At present we have two wards of twelve beds each so constructed that they can be used for isolation wards, and with these the anxiety relative to the care of children in an epidemic is greatly lessened.

CONCLUSIONS

Measles are extremely contagious and spread rapidly where there is direct contact. Past history of the disease is unreliable. The best prevention is prompt isolation as soon as the child shows elevation of temperature and without waiting for an eruption.

Mumps loses its virulence as it spreads in an epidemic in a Sanatorium. Difficult, if not impossible, to prevent the disease from spreading from one unit to another. Disease spreads

slowly in the same ward, and all susceptible children may not be infected.

Whooping Cough and Chicken Pox do not seem to be very troublesome diseases in Sanatoria. Possibly because part of them have been fortunate in not having the disease brought in.

Scarlet Fever has no great tendency to spread from one ward to another. It has a fair spread in same wards where the children are under 8 or 9 years of age; a less spread where the children are over 8 or 9 years. One great difficulty in preventing the spread is that some cases are very mild and are not recognized until after the infective period is over.

Diphtheria is no problem in an Institution where Shick testing and immunization are carried out.

CHAIRMAN EMERSON: The next paper is "Sanatorium Treatment of Extra-Pulmonary Tuberculosis," by Dr. Leon A. Alley, of the Lakeville State Sanatorium. Dr. Alley!

SANATORIUM TREATMENT OF EXTRA-PULMONARY TUBERCULOSIS

BY LEON A. ALLEY, M.D.

WHILE Sanatorium treatment of patients suffering from Pulmonary Tuberculosis is not new in this State, this form of treatment for cases of Extra-pulmonary Tuberculosis on a large scale, is more or less of an innovation. These cases have for years presented a serious problem to the General Hospital. The local condition was recognized and treated, but the general treatment necessary for their tuberculosis, could not be adequately handled.

In the Sanatorium treatment of this type of case, we must bear in mind that we are treating a general constitutional disease, with local manifestation, regardless of the location of the lesion. With this in mind a large part of our treatment must of course be general, with the idea of building up the physical condition of our patient by increasing his resistance. To do this, we resort to the time-worn methods of Sanatorium treatment, applied perhaps in a somewhat different way. The fundamental principle of the treatment of any form of Tuberculosis, must be closely adhered to, if we are to expect successful and permanent recovery. There is no Royal Road to the recovery from Extra-pulmonary tuberculosis.

While much has been said and featured as to the curative value of the natural sun's rays, and while we have featured heliotherapy, more or less in the routine treatment at our clinic at Lakeville, I wish to emphasize the fact that we believe that this phase of treatment is not a cure-all, nor of much value if resorted to, alone. Heliotherapy, along with the more important measures, viz: general rest, fresh air, proper orthopedic management, and surgery, occupies a place of prominence in building up and increasing the resistance of our patients.

I shall endeavor to briefly cover the treatment of the various types of cases under the following headings:—

A: General Treatment.
B: Local Treatment.

All new admissions are kept in bed for at least one month. This is done for two reasons: —first; it gives the patient a good start in his treatment regardless of the type or location of his disease, and secondly; it gives us the opportunity for thorough study and classification. The patient is carefully studied for conditions, other than Tuberculosis. His oral condition is noted by the dentist, and anything of a suspicious character is eliminated. We pay particular attention to the presence of diseased tonsils, more especially in those cases with Tuberculous Cervical Adenitis. For in many instances we feel that the breaking down, caseation, and long continued suppuration in these cases is, unquestionably, the result of infection with pyogenic organisms from diseased teeth or tonsils.

By general rest we mean absolute rest in bed. This form of treatment is continued for an indefinite period of time depending on the location and severity of the lesion. We may classify the patients into two groups:

1. Those having bone and joint lesions.
2. Those patients suffering from other forms of the disease.

In the former, which makes up the orthopedic group, because of the nature of the disease, general absolute rest is of necessity continued for much longer periods of time than in the second group. In the milder forms, where the general condition is good and a response can be noted to the routine treatment and the symptoms are slight, or absent, a prescribed amount of activity is permitted after the first month.

The duration of general rest in the orthopedic case is influenced, almost wholly, by the location of the lesion, it being much longer in those cases with disease in the weight bearing structures. The proper treatment of a diseased hip requires prolonged recumbency of the patient, while a diseased upper extremity may be treated as effectively with the various forms of apparatus while the patient is ambulatory.

Large porches with a southern exposure, properly protected from winds are essential for the satisfactory exposure of the patient to both air and sunlight. This is especially true in the Sanatorium where air-baths and heliotherapy are practised routinely in all seasons of the year. Only by effectively protecting the patient from the wind, can exposure of the body be carried out during cold weather, and when

such protection is afforded, complete exposure is possible even at very low temperatures during the winter months. This is to be desired as cold air is one of our most effective agents in increasing metabolism which plays such a vital part in the recovery of the patient.

Air-baths and heliotherapy when indiscriminately used may be a source of extreme discomfort to the patient and in the toxic case may cause irreparable harm. The sun's rays, properly controlled, have a distinct beneficial effect upon the patient both mentally and physically. There is only one contra-indication to heliotherapy, and that is met with in all types of Tuberculous disease, when a patient is very weak, with much toxemia and a hectic fever chart, then we must postpone heliotherapy until conditions are more favorable. A safe procedure, in the average non-febrile, uncomplicated case, is the Rollier method of heliotherapy, modified to meet local and individual conditions. The patient, is at first gradually accustomed to the out-of-door life before exposure to the sun is started. The length of time required for this preliminary process depends upon the physical condition of the patient and the season of the year. Under favorable conditions, the exposure the first day is restricted to the feet for two periods of 5 minutes each. One period to the anterior and the other to the posterior surface. On the second day, exposures to the feet are for periods of 10 minutes. On the third day, 15 minutes, and so forth. On the second day the legs are exposed at the same time as the feet but for 5 minutes. On the third day the thighs are uncovered in a similar manner for 5 minutes, the legs having 10 minutes and the feet 15. The time is thus increased by 5 minutes to each part, each day until general radiation is obtained for periods of three hours daily—so that each surface of the body receives 1½ hours exposure to the sun.

This method of gradual exposure avoids any danger of burning and produces a pigmentation which has at first a bronze hue, then a copper color, and finally a chocolate brown. The skin becomes supple and velvety, and free from blemishes. The remarkable physical development and relatively firm musculature of patients, exposed to the sun and air by this method, who have been in bed for many months is surprising. On open lesions the first effect of sun treatment is an increase in the discharge which is usually followed by a diminution of the secretion and the healing activity of the tissues becomes evident.

On chronic ulcerative lesions limited to the outer surfaces of the body that do not tend to heal, the concentrated sun's rays are sometimes used by means of the Thezac-Porsmeur lens. This means of concentration has proven to be more stimulating than the direct rays of the sun alone. Ultra-violet rays by means of the Quartz and Carbon Arc lamps are of benefit in a few cases, but at best are but a poor substitute for direct sunlight.

Beyond stating that a substantial, varied, and wholesome diet is indicated, we know of no reason for special diets for the majority of these cases. Patients of this type are inclined to become over-weight and this should be discouraged so far as possible.

Local Rest is undoubtedly the most important single factor in the treatment of bone and joint tuberculosis. With no exception every case requires local rest. As General Rest is directed toward the improvement in bodily health local rest deals directly with the diseased part. By rest of the affected part we endeavor to assist nature to increase the local resistance and to replace diseased bony structure with newly formed granulation and fibrous tissue.

Local rest is best obtained by Fixation and Traction. It is in this type of Tuberculosis more than in any other that individualization must be practised. During the acute stage fixation or immobilization of the affected joint and protection of the joint from weight bearing can be best secured by the use of plaster casts. After the acute symptoms have subsided, these casts may be discarded and supplemented by other forms of apparatus best suited to the case under consideration. We find traction particularly useful in cases of hip, knee and high spinal disease. In the hip-joint the muscles are in a state of perpetual spasm and they tend to pull the femoral head into the socket of the acetabulum; in the knee joint subluxation must be prevented, and in the spine, angulation with its resultant deformity must be avoided.

The various methods we use in bringing about immobilization and traction are illustrated in several photographs. We have found that traction is most readily accomplished in the hip and knee by the leather, weight and pulley method. In the high dorsal and cervical diseases traction is produced in a similar fashion. Traction is continued until all signs of activity have disappeared as evidenced by absence of pain on either active or passive motion and no muscle spasm can be detected. In treating Potts disease of the spine, however, we depend primarily on the hyperextension frame which produces immobilization, which in turn overcomes spasm, and helps to reduce existing as well as to prevent further deformities. Hyperextended adjustable shells to make pressure on the kyphos have been found very useful in treating spinal caries, especially in children. We feel that we have been able to prevent deformities by means of these various forms of apparatus, rather than to correct already existing ones to any extent. Anterior shells are provided to maintain the over corrected position while the patient is turned. A patient with a paraplegia is continued on a Bradford frame until the return of

motor and sensory functions. The time necessary to arrest active disease varies from six to eighteen months.

It is at this stage that orthopedic surgery for arthrodesis of the affected joint is of paramount importance, not only to prevent a recrudescence of the disease at its original site but to avoid metastasis. We feel that perhaps too little consideration has been given to the post-operative phase of the treatment. Here again absolute rest of the part under ideal sanatorium conditions is necessary if we are to expect permanent results.

The response of the uncomplicated, non-orthopedic cases of tuberculosis to general treatment is such, that but few local measures are necessary, and, where complications do arise, for example, cystitis in a case of renal tuberculosis, they must be treated symptomatically. Abdominal paracentesis is resorted to in peritonitis with effusion when the accumulation of fluid is sufficient to cause respiratory or circulatory embarrassment.

In the treatment of a Tuberculous abscess per se, our practise is to aspirate only when the abscess becomes a source of discomfort by its increasing size, or when secondary infection has occurred. When, in spite of repeated aspirations the abscess fails to absorb and tends to infiltrate surrounding structures, a small incision at its most dependent part is indicated. In about 70% of cases abscesses are absorbed if left alone.

We have found it necessary to resort to amputation as a life saving measure in cases of Tuberculosis of the ankle and knee in adults, when the disease has hopelessly involved the tissues, and extensive secondary infection has occurred.

To summarize, general sanatorium treatment is indispensable in all forms of tuberculosis, regardless of the location of the lesion. Heliotherapy alone is of little value; but when combined with recognized sanatorium treatment and proper orthopedic management, it is an important factor. Where arthrodesis is indicated, quicker recoveries with more satisfactory and permanent results are obtained in those patients who have had intensive sanatorium treatment before and after operation.

(Applause.)

CHAIRMAN EMERSON: The next paper is "Concerning the Care and Treatment of Non-tuberculous Patients in a Tuberculosis Sanatorium," by Dr. H. S. Wagner, of the Barnstable County Sanatorium. Dr. Wagner!

CONCERNING THE ADMISSION OF NON-TUBERCULOUS PATIENTS TO A TUBERCULOSIS HOSPITAL

BY H. S. WAGNER, M.D.

AN experiment, consisting of admitting other types of chronic disease to the local tuberculosis institution, has been carried on for the past seven years in Barnstable County. The latter has a population of 30,000. Its institution has a daily census of twenty-three and a capacity of thirty-two beds, of which twelve are in private rooms. Because of these, we have been able to accommodate about thirty non-tuberculous discharges annually. This number is greater than that of our tuberculous discharges because their residence is much more transitory. A comparison of the actual hospital-days of the tuberculous and the non-tuberculous discharges would be about three to one.

It must be remembered that in the beginning a fairly good basis was already formed when the institution was first decided upon. There were three groups in the County that made the Barnstable County Sanatorium possible, recommending it to the legislature. One group desiring a poor house, another a pest house, and a third a tuberculosis sanatorium. Altogether they seem to have mustered sufficient strength which impressed the legislature to act. This act directed the institution to admit tuberculosis and other contagious diseases. Date was 1916.

The requests to admit non-tuberculous cases appeared almost from the start. These came at first from the Selectmen and the Overseers of the different towns. We accommodated them in case it could be foreseen that all demands required by legislation could be taken care of. As long as they came voluntarily and settled easily into the sanatorium routine with no undue apprehensions as to the presence of tuberculosis, we continued to take them. Mental cases were barred.

At first it seemed to be against good judgment to take this non-tuberculous group, but as the demands became insistent we yielded, recognizing that many towns had no available tuberculous cases to send us, but were compelled to contribute to our support. By doing this we maintained their interest in the institution, which was good policy and could be done at little maintenance cost, such as medicine, food, laundry, and occasionally extra nursing.

The Cape physicans coöperate in regard to these cases. They send in data on previous history and treatment and frequently make the application for entrance. In some instances they prefer to prescribe treatment and visit their patient daily. This is their privilege if they see fit. The great majority of these patients are under the responsible care of the superintendent. There is at Hyannis an excellent small general hospital for patients with means.

In January, 1926, the situation was laid before the legislature. An appropriation was requested to cover their needs and other needs of the institution. The result was that, while the legislature gave us permission to continue taking these cases, it refused sufficient funds that would have enabled us to enlarge for them.

This summer we hope to alter some of our unoccupied open-air-ward space in such a way that our contagious unit will be more isolated. This having been done, we expect that the vacancies made possible by the decrease in the tuberculous cases, will take care of any likely increase of non-tuberculous cases.

Furthermore, the waning of the tuberculosis problem supports this scheme. This decrease has been pointed out frequently, and our County figures apparently down through 1926 bear this out. From 1920 to 1923 we had an average of 29 discharges. From 1924 to 1926 this yearly average dropped to 18. During this identical period the county mortality rate fell from 26 in 1919 to 18 in 1926. This coincidental drop then of discharges and mortality rate is consistent. Consequently we have reason to hope the decrease is actual and extending over a period of eight years, that it will continue.

Contrary to this expectation though, since March, there have been found many more cases of pulmonary tuberculosis on the Cape than usual. Most of them were young women, 20 to 29 years old, and incipients. This may be a local flurry or a part of a more general one. I have been unable to obtain other data as yet to gauge it.

Two phases of this experiment are very interesting. First its effect on the tuberculosis situation of the community and second on the tuberculous patients in the institution. In this non-tuberculous group there presents the opportunity to find tuberculosis in a latent or very incipient form. It is similar to the opportunity given a private practitioner and an out-patient department of general hospital, and as in the latter instance, it acts on the poorer classes where most tuberculosis is found. The advantage lies in the early diagnosis given to the community.

One case you might be interested in is a young woman, No. 673, 22 years old, who was sent in by her physician for menorrhagia. A history of tuberculosis in the mother and sister was obtained. Her weakness and anemia from loss of blood were her only symptoms. On the principle that it is worth while scrutinizing carefully all young adults who have suffered contact with pulmonary tuberculosis especially during their adolescent period, we examined her finding a negative physical but an X-ray film, as you can see, moderately advanced.

Furthermore, there is another group sent for observation, suspiciously tuberculous. Formerly it used to be difficult to get them. Lately it has become more generally known on the Cape that other chronic diseases are received and, as a result, they are much less reluctant to come. These patients are honestly endeavoring to find out the cause of their symptoms. They are resigned to a diagnosis of tuberculosis if such represents the actual facts. But, knowing the institution accepts other forms of disease, they are aware that their residence will not necessarily imply tuberculous disease to others. This may be a rather far-fetched point, but very real in the minds of the individual. Consequently, I believe this principle is conducive in aiding the community in the end to isolate its tuberculous. In case some of these individuals insist on returning home, it is still to the advantage of the community because an early diagnosis has been made and they can be instructed earlier how to maintain a virtual quarantine there.

I have two X-ray films illustrating this early type of case that is coming in so frequently in this group for observation. No. 1788 represents a young woman, 26 years old, sent with suspicions pointing likely to head-sinuses. 10 pounds underweight, negative family history, slight cough and white sputum. Suspicious rales were heard below outer half of right clavicle.

The other, No. 1526, 24 years old, seven pounds underweight, with no other symptoms or signs, was prevailed upon to be examined because she had been recently exposed over a fairly long period to infection in her family. While the shadows representing the lung lesion in these are very delicate, I believe they are obviously frank.

As to the effect on the established sanatorium routine, the non-tuberculous patients are with us secondarily and cannot expect to change it. Especially must they and their visitors conform to our rest-hours and so far these rest-hours seem to fit in very opportunely.

The effect on those in the institution is good. Also it is curiously interesting. The monotony of tuberculosis as being our chief type of conversation is relieved. Any such relief is generally acceptable and the chances are that the circumstances of the case in question will be fairly agreeable. At least it will not be as depressing as the usual arrival with tuberculosis. The advent of this type causes considerable comment and discussion among our tuberculous and is apparently producing a drift in their book-reading—whereas patients have formerly read books on tuberculosis, they are now inquiring into other medical subjects, *Hygeia* as well as *Out-Door Life*, Cabot's "Handbook of Medicine" almost as frequently as Dr. Brown's "Rules" and the popular texts of Dr. Otis and Dr. Hawes. These are good signs.

There is no doubt that we have non-tubercu-

lous cases suffering nerve-racking deaths, of which in a small institution other patients are necessarily more or less aware but they are no worse than when due to tuberculosis, and at least they demonstrate that tuberculosis is not the only troublesome disease as our patients are so liable to think.

From my experience this excessive tuberculous death rate in a county sanatorium prevents a certain percentage from entering and others from remaining. Consequently any salutary measure that will tend to balance it will help to remove this dread.

Our Children's Camp, Tonsil Clinics, and the use of X-ray machine for out-patients, work along the same principle in making contacts with the institution of an agreeable nature. They all help to take the curse off the mortality of tuberculosis, peculiar to the County Sanatorium.

The additional cost of caring for these patients is somewhat more than for our tuberculous cases. They need usually more medicine and hospital supplies, and dietary and nursing service. Occasionally one will require a part time or a full-time special nurse.

For the sake of their comfort and their health, they also require more heat. The increased cost of this is quite an item on the Cape where cold winds from the Ocean and Sound blow almost continuously except during July and August.

Our twelve private rooms open off a common corridor and are heated from common steam lines. If one or two rooms require steam it is impossible to prevent the remainder from receiving it except at the room radiator. An easy arrangement would be to have a small section of rooms set apart for these cases, but as yet we have not outgrown present quarters to warrant that.

The example of the open-air life of the tuberculous patients is always before them. Some try to follow it greatly to their advantage. Others cannot because of their physical condition and others will not because they enjoy the comfort and freedom of negligee attire in the presence of heat. To be bundled up after the manner of "chasing the cure" in inclement weather, is the farthest from their idea of human existence. They insist that if their resistance is to be raised, it must be done by some other and quicker means.

While the cost to maintain this type of patient is proportionally greater than to maintain the tuberculous, the additional expense involved compared to the bare operation costs of a sanatorium, is small. It is so little that if there is any virtue in the policy at all, it is worth it.

So far, this experiment has been carried on such a small scale, that no exact parallel can be drawn in regard to the more heavily populated counties. Of course, the problem under those conditions would be much greater, perhaps too complicated. Still human nature is much the same generally and in rural and small town districts, it ought to react as it did on the Cape.

I believe it depends on educating a community that it is possible to live safely within the immediate precincts of tuberculosis. It is an idea that must develop and not be forced—otherwise opposition might arise, difficult to overcome.

I have not presumed to take up the question as to the right of expending public funds for non-contagious disease in general. That is rather a point in law for the Legislature, lawyers and social service workers. On the principle that others and posterity are protected it has been found justifiable to spend public money for public tuberculosis sanatoria. In order to get the patients for isolation, they are made comfortable and their diseases treated. Therein lies the expense, but its justifiability lies in the fact that their isolation affords protection to posterity.

I simply wish to start with the fact that in Barnstable County we had vacant beds in the tuberculosis institution which could be used for non-tuberculosis cases at maintenance cost plus a slight extra. There was a call to use them. The expediency warranted it.

(Applause.)

CHAIRMAN EMERSON: The next paper is "Pleurisy with Effusion: Treatment and Prognosis," by Dr. Olin S. Pettingill, of the Essex County Sanatorium. Dr. Pettingill!

PLEURISY WITH EFFUSION

TREATMENT AND PROGNOSIS

BY OLIN S. PETTINGILL, M.D. AND
A. H. STANHOPE, M.D.

THIS is the preliminary report of a study of 35 cases of tuberculous pleurisy with effusion with special observation as to the immediate results of treatment and prognosis. We undertook this study to see if the tabulation of cases would prove the impression we had received from clinical observation of the importance that has been placed in prolonged rest treatment.

INCIDENCE OF EFFUSION

Among 1574 cases admitted to Essex Sanatorium there was a reliable history of the previous existence or evidence of an effusion in a pleural cavity in 58 cases. Three of these cases are not presented because they were probably of cancerous origin. One case showed involvement of other cavities such as the pericardium, and it is not included. Another is excluded be-

TABLE 1

(All sputum positive)

PLEURAL EFFUSION OCCURRING AFTER ONSET OF PARENCHYMATOUS LUNG LESION

Case No.	Stage of disease on admission	Fluid. Present or absent on admission.	Age at time of effusion.	Times aspirated.	Side.	Indications for aspiration	Immediate results in progress.	Length of illness from start to finish.
45	Clinically active, far advanced.	Present	15 years	Once, clear during residence.	Right	Extension of disease in opposite lung.	No effect	13 months.
217	Clinically active. moderate advanced.	Absent.	32 years	Several, each pleura before admission.	Both	Not known.	?	4 years
360	Clinically active, far advanced.	Absent	31 years	Once, clear during residence.	Left	Displaced mediastinum.	No effect.	17 months.
1784	Clinically active, far advanced.	Present	24 years	Three times during residence.	Right	Dyspnoea and general discomfort.	No effect.	17 months
379	Clinically active, moderate advanced.	Absent	34 years	Twice before admission.	Left	Not known	Never well.	6½ years.
665	Clinically active, moderate advanced.	Present	44 years	Once, clear before admission.	Left	Before admission, apparently diagnostic.	Active one week only after.	Living.
698	Clinically active, far advanced.	Present	27 years	Once before admission.	Left	Not known.	Continued active.	3 years.
794	Clinically active, moderate advanced.	Absent	41 years	Once during residence.	Right.	Extension of disease in opposite lung.	Continued active.	3 yrs. 2 mos.
778	Clinically active, far advanced.	Present	33 years	Never, before or during res.	Right	No clinical indications.	Continued mildly active	2 years.
354	Clinically active, far advanced.	Absent	30 years	Once, diagnositc before admission.	Right	Diagnostic.	No effect.	3½ years.

SUMMARY

Five (5) with fluid on admission.
Five (5) without fluid on admission.

Average age at time of effusion, thirty-one (31) years.
Average length of illness from start to finish, 2 years 10 mos.

Five (5) right pleura.
Four (4) left pleura.
One (1) both pleurae.

Reas
Two (2) extensio
One (1) displaced
One (1) dyspnoea

Two (2) died in
Two (2) unimpro
Four (4) improv
Two (2) quiescen

TABLE 1

OCCURRING AFTER ONSET OF PARENCHYMATOUS LUNG LESION

e.	Indications for aspiration	Immediate results in progress.	Length of illness from start to finish.	Length o quiescen
ht	Extension of disease in opposite lung.	No effect	13 months.	Not after effusion
h	Not known.	?	4 years	3 mos.
t	Displaced mediastinum.	No effect.	17 months.	Not after effusion.
ht	Dyspnoea and general discomfort.	No effect.	17 months	Not after effusion.
t	Not known	Never well.	6½ years.	4 mos.
t	Before admission, apparently diagnostic.	Active one week only after.	Living.	3½ years and well today.
t	Not known.	Continued active.	3 years.	No.
ht.	Extension of disease in opposite lung.	Continued active.	3 yrs. 2 mos.	No
t	No clinical indications.	Continued mildly active	2 years.	No
t	Diagnostic.	No effect.	3½ years.	Not after effusion.

SUMMARY

ission.
dmission.

on, thirty-one (31) years.
m start to finish, 2 years 10 mos.

Reasons for aspira
Two (2) extension of disease i
One (1) displaced mediastinum
One (1) dyspnoea and general

Two (2) died in Sanatorium.
Two (2) unimproved.
Four (4) improved.
Two (2) quiescent.

10 Cases.

Length of quiescence	Condition on discharge.		Condition at present time	
	Fluid	General		
Not after effusion.	Signs present.	Unimproved.	Dead	
3 mos.	Signs absent.	Quiescent.	Dead	
Not after effusion.	Signs present.	Dead		
Not after effusion.	Signs present.	Improved.	Dead	
4 mos.	Signs present.	Quiescent.	Dead	
2½ years and well today.	Signs present.	Improved.	Living and working. symptomatic free	
No.	Signs present.	Unimproved.	Dead	
No	Signs present.	Improved.	Dead	
o	Signs present.	Improved.	Dead.	
ot after ffusion.	Signs absent.	Dead.		

for aspiration
? disease in opposite lung.
ediastinum (left).
d general discomfort

atorium.

cause of the presence of general edema. Four have been discharged from the sanatorium less than a year; 10 are still in the sanatorium under treatment and in 4 we could not secure sufficient information to be of value for study. This leaves 35 cases of pleurisy with effusion that, from either a history of family exposure, a study of the fluid itself or the subsequent development of tubercle bacilli in the sputum are considered tuberculous. The incidence of tuberculous pleurisy with effusion was 54 in 1427 cases of pulmonary tuberculosis, in all stages treated or about 1 in 30.

SECONDARY EFFUSION

We have divided these 35 cases into two groups according to the time in the course of the disease that effusion developed. In 10 cases (see Table I) the effusion occurred after parenchymatous lung lesion had been demonstrated or in other words the effusion appeared as a complication in a progressive pulmonary tuberculosis.

TREATMENT OF FLUID

A review of the treatment of the fluid in this group shows that 2 cases were aspirated during residence for the relief of pressure symptoms. The pressure symptom or sign in one was the displacement of the mediastinum. This was a left pleural effusion. Dyspnoea and general discomfort was the indication for removal of fluid in the other. Rapid extension of disease in the opposite lung was the clinical reason for withdrawal of fluid in 2 cases. The amount of fluid removed varied from 500 c.c. to 1500 c.c. or an average of 1000 c.c. In only one case was the fluid removed more than once for the relief of symptoms. Aspiration in this case was done three times in seven and eight day intervals. This was a large effusion and during the first removal of fluid the patient developed symptoms of surgical shock after 1000 c.c. had been withdrawn. The second and third attempts resulted in no disturbance to the patient after 1500 c.c. and 1000 c.c. respectively had been removed. It is reported that this condition is more likely to occur in a left pleural effusion because of the disturbance to the circulation. The displacement of the apex beat was marked in the left sided effusion and was the cause for the removal of fluid principally for this reason. No attempt was made to remove the fluid and replace with air in any of these cases.

GENERAL TREATMENT

The general treatment of these cases followed that commonly in vogue; viz., bed rest and the usual hygienic and dietetic therapy of an active pulmonary tuberculosis.

PROGNOSIS IN THIS GROUP

Nine or 90% of these 10 cases are dead after an average length of illness of 2 years 10 months. Of the two who were discharged as quiescent, one died in 4 months and the other in 2 years 10 months after discharge. After the lung was deflated by the accummulation of fluid in the pleura there was no lessening of severity of symptoms noted in any of these case. The withdrawal of fluid because of a rapid extension of disease in the opposite lung showed no improvement after removal of fluid but rapidly progressed, soon extending to other organs. Only 1 or 10% of these cases is now working and symptomatically free.

PRIMARY EFFUSION

In 25 cases, pleurisy with effusion was the first known manifestation of tuberculosis. The average age at the time of the occurrence of the effusion was 24 years. In 14 or 56% the patients were admitted for treatment because of the development of clinical pulmonary tuberculosis. One case in this group proved to be an empyema or pyo-pneumothorax. A reliable history was obtained in the case of the occurrence of an effusion six years prior to admission which was aspirated three times and the exudate was clear at each removal. The patient had worked steadily for over five years since the primary effusion.

X-RAY AND PHYSICAL SIGNS

(PRIMARY CASES)

A study of the X-ray and physical signs in this group of primary effusion cases shows (see Table II) that in the 5 in which the effusion appeared two months before admission the X-Ray showed a homogeneous shadow at the base and physical examination revealed varying degrees of impaired resonance in each. The opposite lung showed no X-Ray evidence of a parenchymatous lesion in any of the cases while there were rales present at the apex in 2.

The three cases in which the effusion occurred 3 months before admission showed the same type of X-Ray shadow and physical signs over the base of the involved pleura while the opposite lung showed a parenchymatous X-Ray lesion and rales at the apex in 1 case. In 2 cases of effusion occurring between five and six months before admission there was a homogeneous shadow and dulness in each while the opposite lung showed a parenchymatous lesion in 1 and rales at the apex in 1. In the 14 cases (excluding empyema) in which the effusion occurred from 1 to 20 years before admission, the X-Ray showed the bases clear in 12 or 85% and a homogeneous shadow over the base of the lung in two. The homogeneous shadow in one of these two disappeared after sanatorium treatment of one year. The other gave a history of fluid in the opposite pleura to that showing a diffuse shadow.

Of the 10 cases in which the effusion de-

TABLE II

PRIMARY EFFUSION 25 Cases.

X Ray and Physical Signs.

Case No.	Time effusion developed before admission. Side	Effusion at time of admission. X Ray	Effusion at time of admission. Phys. signs	Condition opposite lung at time of admission. X Ray	Condition opposite lung at time of admission. Phys. signs	Last known physical signs and X ray.
345	Two months. Aspirated before. Left	Diffuse shadow not dense, left base.	Dullness left base. S.B.	Clear	Few rales at apex.	5 years after. Base clear. no dullness or S.B.
436	Two months. Aspirated before. ?	Diffuse shadow at base.	Dullness. A.B. lower half.	Parenchyma clear.	No rales.	3 mos. after. Shadow less. Opposite lung clear.
723	Two months. Not Aspirated before. Left.	Left base homo. shadow.	Flat left base.	Parenchyma clear.	Few rales at apex.	4 years after. Parenchyma clear. Bases clear.
730	Two months. Aspirated before. Left.	Left base homo. shadow.	Flat left base.	Clear	Negative	4 years after. Clear.
1322	Two months. Aspirated before. Right	Right base homo. shadow.	Dullness and S. B. at base.	Clear	Clear	6 mos. after. Parenchyma clear.
685	Three mos. Aspirated several times before. Right	Right base homo. shadow.	Flat at base.	Clear	No rales.	Only first.
1005	Three months. Aspirated before. ?	Homo. to 2nd. rib.	Flat to 3rd. rib.	Parenchyma at apex slight.	Negative.	3 years after. Bases clear.
1012	Three months. Aspirated before. Left	Homo. shadow at base.	Dullness left. Rales and S.B.	Shadow at apex.	Rales at apex.	3 mos. after. Progressive opposite lung.
649	Five months. Aspirated before. Left.	Diffuse shadow at left base.	S.B. and dullness at left base.	Parenchyma shadow at apex.	Rales at apex.	1½ yrs. after. Left base clear. Upper half of both involved.

Boston M. & S. Journal September 15, 1927

TABLE II PART II

TABLE 11 PART 11

Case No.	Time effusion developed before admission. Side	Effusion at time of admission. X Ray	Effusion at time of admission. Phys. signs	Condition opposite lung at time of admission. X Ray	Condition opposite lung at time of admission. Phys. signs	Last known physical signs and X ray.
465	Six months. Not aspirated before. Left	Dense homo. shadow at left base.	Flat left base	Parenchyma clear.	No rales.	9 mos. after. Not as dense. No physical signs at present time.
1585	One year. Aspirated before. ?	Base clear.	Right S.B. Slight dullness.	Parenchyma to 3rd. rib.	No rales.	Only first.
781	One year, 8 mos. Aspirated before. Left	Base clear.	S.B. left base	Clear.	Rales at apex	Only first.
1713	Two years, 3 mos. Aspirated? ?	Bases clear.	No rales at bases.	Parenchyma at apex	Rales at apex	3 years after. Bases clear. Parenchyma top of both lungs.
302	Four years. Not aspirated before. ?	Clear. No evidence.	Bases clear.	?	?	At least upper third at same time as admission.
1084	Five years. Aspirated before. ?	Right base diffuse shadow.	Right base S.B. Rales.	Clear.	Few rales at apex.	6 years after. Right base clear.
1787	Five years. Aspirated before. Left	Bases clear.	No rales at base.	Parenchyma shadow to 3rd. rib.	Rales to 2nd. rib.	6 years after. Scattered trace.
576	Five years. aspirated before. Left	Bases clear. Extensive parenchyma disease.	Bases clear.	Scattered upper third.	No rales.	5 yrs. after. Extensive both lungs. Left shows more than right.
357	Six years. Aspirated before. Left	Homo. shadow 2nd. rib. Purulent.	Flat left base.	Dense nodular shadows at hilum. Pr.clear	Negative	7 years after

TABLE 11 PART 111

Case No.	Time effusion developed before admission. Side	Effusion at time of admission.		Condition opposite lung at time of admission.		Last known physical signs and X ray.
		X Ray	Phys. signs	X Ray	Phys. signs	
552	Seven years. Not aspirated before. Left	Bases clear. Hilum shadow.	Rales left base.	Parenchyma	Few rales.	7 years after. Clear. Rales left base.
629	Twelve years. Aspirated before. Left	Bases clear.	Rales left base.	Parenchyma to 2nd. rib.	Rales at apex	12 uears after. Parenchyma lesion right.
680	Thirteen years. Aspirated 3 times before. Left	Bases clear.	No rales at base.	Parenchyma to 3rd. rib.	Rales to 3rd. rib.	17 years after. Clear.
833	Fifteen years. Aspirated before. Right	Bases clear.	Bases clear.	Parenchyma clear.	Rales at apex.	15 years after. Bases clear. Rales right top. Parenchyma right top.
293	Sixteen years. Aspirated twice before. ?	Bases clear.	Few rales left.	Parenchyma shadow both apices.	Rales both apices.	16 years after. Parenchyma same.
1009	Seventeen years. Not a spirated before. Right	Homo. left base.	Dullness left base.	Dense shadow to 2nd. rib.	Severe lesion upper 3rd.	20 years after. Parenchyma apices.
1528	Twenty years. Aspirated? ?	Bases clear.	No rales at base.	Scattered apex to base.	Upper half.	21 years. Parenchyma top. Bases clear.

Boston M. & S. Journal September 18, 1919

veloped 6 months and less before admission and there was a homogeneous shadow and impaired resonance present on admission the condition is known to have entirely disappeared in 7. One case cleared up in 6 months after the beginning of illness. These patients were examined at various intervals following the effusion. In 5 cases in which the effusion had occurred a year or more previous to admission the X-Ray showed the bases clear, while there was still present suppressed breathing, rales after cough, or both. Of the 7 cases that eventually cleared the physical signs above mentioned persisted a long time (years) after the X-Ray evidence had disappeared.

Table III

PRIMARY EFFUSION. 25 Cases.

Primary pleurisy with effusion grouped according to length of rest at the time of the effusion and showing the average quiescent period and their present condition.

Length of rest treatment at time of effusion.	Number of cases.	Length of quiescence of disease following effusion.	Number working. Symptomatic free.	Disease active, April, 1927.	Dead, April, 1927
One month and less.	8	3 years, 9 mos.	2	2	4
Two months	3	10 years.	1 (18 yrs. after)		2
Three months	3	6 years, 8 mos.	1 (18 yrs. after)		2
Four months	2	14 years	2 (20½ yrs. after)		
Six months	3	No reactivations	3, all working, average 5 years after.		
Eight to twelve mos.	4	No reactivations	4, all working, 3 to 5½ yrs. after.		

Two cases in this group continued active from beginning of illness till death, an average length of illness of 9 months after.

The same 25 cases of primary effusion, grouped in Table III according to the length of rest at the time of effusion, show that of the 8 cases that rested one month or less 4 are dead, 2 are clinically active and 2 are working. The average duration of quiescence following the effusion was 3 yrs. 9 months. Three cases rested 2 months; of these 2 are dead, 1 is working 18 years after effusion. Of the 3 cases that rested 3 months, 2 are dead, 1 is living 18 years after the initial illness and the average quiescence was 6 years 8 months after effusion. The 2 cases that rested 4 months are both working an average of 20½ years after the beginning of their illness, while the average quiescent period was 14 years. Of the cases that took treatment, rest, etc., 6 months, all are working an average of 5 years and there has been no reactivation of the disease. The 4 cases treated 8 to 12 months are all working 3 to 5½ years after initial illness with no relapses.

TREATMENT OF PRIMARY EFFUSIONS

One case in this group was aspirated during residence to determine the character of the fluid present. It was apparent that of the 19 cases aspirated before admission, 18 were to aid in diagnosis and one was for the relief of pressure symptoms. All of the cases entering the sanatorium with effusion were given 2 months and longer of strictly bed rest treatment. In the patients showing no pressure symptoms the fluid was left alone.

PROGNOSIS

Twenty-three (of the 25) or 92% of the primary effusion cases became quiescent, the length of the quiescent period varying from six months to seventeen years or an average of 7½ years. Two cases or 8% were acutely progressive from beginning of illness to a fatal termination with an average duration of disease of nine months. A total of 10 are dead. Two are clinically active pulmonary tuberculosis at the present time. Thirteen are now working and seven of these thirteen are known to be symptomatically free. In the cases that developed clinical pulmonary

tuberculosis after a period of quiescence, the type of disease was particularly mild in virulence and fibrotic in type.

On the basis of the above statistics I submit the following conclusions:

1. Effusion occurring in a progressive pulmonary tuberculosis where the parenchyma of the lung was moderately involved was a serious complication.
2. Aspiration of the fluid in the primary cases appeared to have very little effect on the subsequent condition of the pleura after a year or more following the initial effusion.
3. 92% of the primary cases became quiescent.
4. The average quiescent period in this series was 7½ years but active pulmonary tuberculosis may develop after 17 years of comparatively good health.
5. 8% developed acute progressive pulmonary tuberculosis in spite of early and complete bed rest.
6. The period of quiescence following the primary effusion or initial illness was in proportion to the length and completeness of rest treatment that the patient had at this time.

If these statistics tend to prove anything it is the importance of prolonged bed rest of the patient at the beginning of his effusion, followed by years of carefully supervised convalescence, to permanently arrest primary tuberculous pleurisy with effusion.

(Applause.)

REFERENCE

1 O. W. Bethea: Medical Clinics of North America, 1925-26, Vol. 9, p. 971.

CHAIRMAN EMERSON: This concludes the formal papers of the afternoon and the papers are now open for your discussion. I will ask Dr. Joseph Pratt to open the discussion.

Dr. Pratt was not present.

CHAIRMAN EMERSON: Dr. A. K. Stone, may I call on you to open the discussion?

DR. A. K. STONE (Framingham Center): Mr. President, I think you are to be congratulated in getting all the sanatorium superintendents here to tell us what they are doing and how they are doing it and encouraging us to help them to get better and better results. I am not prepared to discuss the details of the papers. There is only one point that I should like to make and that is that Dr. Alley spoke of the increased musculature that developed under bed rest and exposure to sun and air, and he spoke of it as heliotherapy.

Sir Henry Gauvain, who was in this country from England a year ago, said that it was the exposure to the air and not the sun that developed this increased musculature in the patient. Dr. Gerald Webb, of Colorado Springs, has also emphasized the importance of the air bath.

I simply wanted to call Dr. Alley's attention to that one point.

DR. FRANCIS P. DENNY (Brookline): I was especially interested in the study of the contagious diseases in the hospital. I am not sure whether I understood Dr. Willoughby correctly in stating that one explanation for the failure of scarlet fever to spread more in the wards was due to the excellent hygienic conditions under which the patients live. I think it is very dangerous to claim that we don't get contagious disease if we are in robust health. It is impossible for a child, for instance, to be in any state of health that will prevent him from coming down with the measles, and probably this is so with any contagious disease.

I think probably an important point was that they sterilized their dishes in the sanatorium and there was less opportunity for the spread of contagion from faulty personal hygiene than under ordinary conditions.

I think we ought to remember that scarlet fever is not a very contagious disease anyway and it is only occasionally that a secondary case comes down in the family.

DR. SUMNER H. REMICK (Reading): I think the officers are to be congratulated on the well-arranged program and I am only sorry that more general practitioners are not here to listen to the various papers.

The fact that impressed me most, particularly in my line of work, was the suggestion of Dr. Wagner, utilization of excess beds in Barnstable County for non-tuberculous individuals. I want to point out that it may be true of Barnstable County, but it is not true, probably, of the state as a whole because at the present time the counties have not sufficient beds to any more than take care of their tuberculous. To carry out this program it would mean the enlargement of the present facilities of the institutions.

I think at the end of ten years the beds might be well utilized. Although tuberculosis is on the decline, the number of people who will require or request hospitalization will continue to increase, for the next five or six years, certainly up to the ten-year period.

I feel that probably even in Barnstable County that has a population, I think, of thirty thousand, they could now fill the institution provided the cases could be discovered and induced to go into the institution. It is a fine thing and it may be very well for that county, but I question it as a state program at the present time.

DR. JOHN B. HAWES (Boston): I did not hear, I regret to say, all of Dr. Alley's paper, but I note a statement in the synopsis which reads, "Heliotherapy alone is of little value."

That statement, I think, is open to question. If we look on heliotherapy as being confined to the ultraviolet lamp, that is one thing; but if we look upon it as Dr. Stone called our attention to it, as a combination of the use of ultraviolet rays, of red and especially of rest that should go with it, it is quite another thing.

Personally I regard heliotherapy as the most important agent in treating tuberculosis that has come into our field in the last ten years.

I, too, as was Dr. Remick, was much interested in Dr. Wagner's paper. If you remember, three or four years ago at Swampscott, the late Dr. Houck, Superintendent of the Metropolitan Life Insurance Company's Sanatorium, at Mt. McGregor, New York, said they had found out, and as we are all coming to find out, the rules which cure tuberculosis are the rules of health and are equally good for heart disease, kidney disease, joint disease, anemia and all sorts of other things, thus calling attention some years ago to the very thing Dr. Wagner calls attention to now.

I agree with Dr. Remick, that as far as the state is concerned, it would be difficult to carry out this plan but there are vacant beds in almost all of the local hospitals, beds which I think should not be vacant. I hope the time will come when every sanatorium will be an institution not only for the treatment of tuberculosis, but will be a place for all the suspicious and doubtful cases and for treatment along general lines where it is needed so very much and so seldom given to certain non-tuberculous chronic diseases.

Dr. F. T. Lord (Boston): There is one matter, Mr. Chairman, which occurs to me in connection with Dr. Pettingill's paper and that is heartily to indorse his recommendation of continued rest in the treatment of primary dry pleurisy. Some years ago I investigated the subsequent course in a series of such cases and found that about one-third developed pulmonary or other tuberculosis within an average interval of four to five years. The outcome of this type of pleurisy was thus about as bad as that with the primary serofibrinous form. The patients in my series were not at that time treated by continued rest and Dr. Pettingill's success has been such as to suggest that this method should be instituted in all cases.

Dr. C. R. O'Brien (Bangor, Me.): It is a great pleasure to come here and listen. In the treatment of tuberculosis I was rather surprised that more was not said about surgery. They spoke about heliotherapy being the greatest thing we have had in late years. It seems to me that artificial pneumothorax and such things have been the one great advance.

I appreciate that they all come right back to the rest treatment, but with our rest, fresh air, and nourishment, I have also heard spoken of, the milk and eggs, I don't know what the experience of other men in this work has been, but my observation and my own experience is that the treatment being so long drawn out that in cases without fever, I get better results with a general mixed diet, so I give the eggs and milk as they are taken normally, but if a patient is to be confined to a diet forcing eggs and milk they will upset digestion and as Dr. Groucher said, he never knew a patient who had tuberculosis who wasn't, hadn't been, or wouldn't be a dyspeptic. I am an advocate of a general mixed diet giving eggs or milk or lunches, or as ordinarily taken with the morning meal.

Dr. Ernest B. Emerson (Rutland): Mention has been made of milk and eggs and lunches. I am absolutely opposed to the indiscriminate giving of lunches either milk or eggs in any way, shape, or form. I think three square meals a day of an average diet, bread and butter, meat, and a simple dessert, accomplish far more than stuffing. Stuffing is obsolete and has no place in the treatment of a tubercular patient. That is borne out in our experience in Rutland.

Some years ago we started a group of patients as they came in. With one group we continued with the lunches and the other group we took off the lunches. The group which we took off the lunches showed an average gain in weight of two pounds more than the other group. The digestive disturbances were less than half.

I don't believe in lunches and milk and eggs except as articles of food, and nine-tenths of the indigestion which we have with our ambulatory patients is the result of the patients' eating square meals and then pouring down three or four glasses of milk.

I think rest is the bedrock of the whole thing, whether they have pleurisy with effusion without rales or whether they have rales, particularly in the early cases.

The early cases with young adults, I believe that they should be put to bed and kept in bed, not for two or three weeks, but for two, or three, or six months if necessary and in some instances longer than that. Thank you. (Applause.)

Dr. Leon A. Alley: I should like to say one word. I will not attempt to enter into the discussion of heliotherapy, but I should like again to make the statement that heliotherapy alone is of little value. That statement is made in connection with the cases under discussion, the orthopedic group, those cases that come in with tuberculosis of the spine, hip, and knee, especially in the acute stages, and in the type of cases covered in my paper, we have found from experience that heliotherapy alone is of little value.

DR. H. S. WAGNER: This flurry in tuberculosis on the Cape was a very interesting thing to me. I didn't realize until I began to check up things just about two weeks ago the extent of it. We think that the number of cases found and the deaths will run according to one to twenty or one death to ten actives and one death to ten inactives, but it is questionable whether that can be maintained. It has not so far affected the number I have in the institution. Out of the fourteen actual cases found very early, we received only three in the institution with promises of a few more. It didn't materially increase the census of the institution. It can be seen in the future whether there will be a coincidental rise in the death rate of the county for 1927, which is an interesting thing to keep track of.

Neither Dr. Chadwick nor Dr. Pettingill had anything to add. Dr. Willoughby did not care to add anything.

CHAIRMAN EMERSON: If there is nothing further to come before us, the meeting is adjourned.

The meeting adjourned at four-thirty o'clock.

ORIGINAL ARTICLE

SUPPRESSION OF KIDNEY FUNCTION FOLLOWING ABSORPTION OF BICHLORIDE OF MERCURY

BY WILLIAM A. FLYNN, M.D.

ON February 5, 1927, at 7:30 P. M., a young girl 18 years of age came to the office with a history of having, three and a half hours previous, inserted into her vagina, as high as possible, a 7½ grain tablet of bichloride of mercury, for the purpose, so she said, of preventing menstruation.

Physical examination disclosed a well-developed and well-nourished young girl, suffering excruciating pain, and complaining of a bearing-down feeling in the supra-pubic region. Examination of the external genitals showed oedema of the labiae majorae and minorae. The vaginal opening was discolored a dirty grey, and examination by speculum showed the whole of the vaginal mucous membrane and cervix discolored in the same way. No remnant of the tablet was found. To the examining finger the mucous membrane felt exceedingly rough.

The patient was immediately sent to the hospital and the following treatment carried out.

TREATMENT

Two drachms of egg albumen were introduced into the vagina, and a few minutes later a hot boric douche (1 gal.) was given. This returned greenish in color. This treatment was continued every two hours during the night. Magnesium sulphate (1 oz.) was given and fluids were forced; also potassium citrate (grs. xxx) was administered every four hours.

On February 6, a sub-pectoral injection of normal salt solution was given (700 c.c.) and this treatment was continued every other day.

On February 7, 300 c.c. of 5% glucose was given intravenously. This was repeated every other day during her stay in the hospital. Hot wet packs were given every two hours until February 12, when they were replaced by hot dry packs because of the occurrence of a mercurial dermatitis. Sodium thiosulphate (grs. xv) was given intravenously in 10 c.c. of sterile water every day.

COURSE OF DISEASE

Vomiting occurred frequently during the first week. Her temperature and respiration remained approximately normal. Her blood pressure did not vary materially from 115 systolic and 50 diastolic.

February 13, sloughing of her vaginal mucosa was noticed, followed some days later by bleeding from the raw surfaces. Copious nosebleeds occurred also at this time.

THE SKIN

On the eighth day after admission the skin was covered with a diffuse, bright red papular rash, more marked on the lower half of the body, and unaccompanied by itching. The face and scalp were free. This disappeared in a few days without any treatment.

On February 11, the patient complained of hoarseness, and sore mouth and throat. Examination showed a greyish exudate covering the pharynx and tonsillar region. The gingivae were also covered with this exudate, and were tender and bled easily. The patient complained constantly about her teeth aching. Relief was obtained by the use of aspirin, and a mouth wash of sodium thiosulphate.

The bowel movements were not formed, were thin, pasty, and greyish in color and accompanied by much mucus, but no blood was seen. Complete anuria was the characteristic feature of the poisoning, no urine being obtained until February 11, when 2½ ozs. were obtained by catheterization. The next day 4½ ozs. were obtained, the next 15 ozs., and the amount increased each day until now she is excreting 38 or 40 ozs. per diem.

The patient was discharged, against advice, on February 23, 1927, is now back at her usual occupation as clerk, and is not apparently suffering much from her act of indiscretion. She has been offered vaginal dilatation as a means of preventing any stenosis occurring from scarring produced by the destruction to the vaginal walls, but has refused it. Urine examination today shows a fairly large trace of albumen, and a microscopical examination of the sediment shows a picture consistent with that of a chronic parenchymatous nephritis.

I wish to thank Dr. Randolph C. Hurd of Newburyport for his many valuable suggestions and kindly advice.

Case Records
of the
Massachusetts General Hospital

ANTE-MORTEM AND POST-MORTEM RECORDS AS USED IN WEEKLY CLINICO-PATHOLOGICAL EXERCISES

EDITED BY R. C. CABOT, M.D.

F. M. PAINTER, A.B., ASSISTANT EDITOR

CASE 13371

HEART SYMPTOMS IN A SYPHILITIC

MEDICAL DEPARTMENT

An Irish bricklayer fifty-seven years old came to the hospital seven years before his final admission. A large lipoma was removed from the midscapular region. He made an uneventful recovery and was discharged in nine days. He gave a history at that time of hacking cough, especially in cold weather, some dyspnea on exertion, syphilis twenty years previously with treatment at intervals since that time, and "rheumatism" five years previously. On examination a rough systolic murmur was heard over the precordia best heard at the aortic area but fairly well heard in the midaxillary line and just audible over the left back; also a presystolic rumble, best heard at the aortic area. Dr. White noted that the heart and great vessels were enlarged.

The patient was treated for the next six months in the Out-Patient South Medical Department. His Wassermann was strongly positive.

January 27, seven years after his first entry, he was readmitted. Since his first admission he had been under treatment by a syphilologist. He now said his dyspnea on exertion was of ten years' duration. He had noticed no increase. He had not followed the advice given him at the hospital to obtain lighter work. Occasionally he had some dizziness, and at times, generally at night, palpitation. He had had no edema. His left leg had been swollen thirty years as a result of an accident. For the past year he had had increasing nycturia and some frequency during the day, especially when he was working. Nine months before admission the dyspnea became worse and he also had a sense of severe pressure over the heart and lower chest on exertion, taking his breath away, stopping with rest and leaving him rather weak. It took him nine days to do the work he formerly did in two. After three weeks' rest he was able to work again at a more moderate rate, and had little trouble except from dyspnea and pain until two weeks before his readmission. Then he found himself too weak and dyspneic to work. He found he needed two pillows at night. The weakness and dyspnea continued in spite of rest. During the past two weeks his feet had been swollen during the day, especially the right, and his right leg.

He gave a family history of fatal tuberculosis in three sisters and one brother. The patient was a moderate drinker. He now gave a history of gonorrhea at the same time that he had syphilitic infection.

Clinical examination showed a very obese, cyanotic, orthopneic and dyspneic man sitting up in bed. Perforated nasal septum. Tongue very dry, with atrophied papillae. Pulsation seen on both sides of the neck. The whole precordium heaved. Apex impulse of the heart in the sixth space 15.5 centimeters to the left of midsternum, right border 7.5 centimeters to the right, supracardiac dullness in the second space 6 centimeters to the left, 3 to the right. At the apex and transmitted into the axilla and up over the lower part of the precordium were loud harsh systolic and diastolic murmurs in immediate succession. The systolic had a very intense musical quality and was heard in the right axilla as well as in the left. At the aortic area were extremely loud systolic and diastolic murmurs replacing the heart sounds, transmitted into the neck and also heard down the left border of the sternum to the third left interspace. There was definite pulsation and thrill in the second right interspace and a thrill in the suprasternal notch. Rate 85. Action regular. Pulses synchronous, not paradoxical. Artery walls too thickened to make out Corrigan quality. Blood pressure 180/80 to 140/70. An electrocardiogram January 28 showed normal rhythm, rate 80, P-R interval .22 seconds, marked left axis deviation, probable intraventricular block. Another March 5 showed auricular fibrillation, rate 100, ectopic ventricular contraction (lead I), intraventricular block as before. Coarse moist râles at the bases of both lungs. At the left base posteriorly dullness, diminished tactile fremitus, normal voice and breath sounds. In the abdomen a small amount of free fluid. In the left inguinal region a remarkable mass of greatly dilated veins, the result of trauma. Pitting edema of the legs and sacrum. Pupils equal, regular, reacted promptly to light and accommodation. Bilateral cataracts. Knee-jerks and ankle-jerks not obtained.

Urine normal in amount, specific gravity 1.017 to 1.031, the slightest possible trace to a trace of albumin at 22 of 31 examinations, sediment negative until March 18, then 1 to 30 leucocytes at 5 of 6 examinations, 1 or 2 red cells twice. Culture from a catheter specimen March 22 showed no growth. Renal function February 4, 10 per cent., February 12, 40 per cent. Blood: 8,650 to 15,700 leucocytes, hemoglobin 70 to 90 per cent., polynuclears 87 per cent., reds normal. Three Wassermanns negative, one strongly positive. Non-protein nitrogen 43 to 56 milligrams. Stools, guaiac negative three times, strongly positive once after epistaxis.

A portable X-ray showed the mediastinal shadow markedly increased in width, chiefly to the right. The increase was somewhat exaggerated by rotation of the patient. There was also some evidence of tortuosity of the aorta. It was thought the appearance should be checked by fluoroscopic observation.

Temperature 98° to 100.5° with two periods of greater elevation, as high as 101.5° February 3 to 7 and March 16 to 19. Radial pulse 55 to 125. Pulse deficit 4 to 90 beats. Respirations 16 to 47.

The patient was psychotic at night and silent by day, went downhill steadily, and by the end of the first week was psychotic day and night. During the week ending February 17 he made some improvement, had much less dyspnea, and lost the signs of congestive failure. He continued to gain, and by March 2 was considered ready to go out as soon as arrangements could be made for a place for him.

March 4 he developed Cheyne-Stokes respiration and fibrillation with an apex rate of 120 and radial of 116. There was a pericardial friction rub. The next day he was in much the same condition he was in a month earlier, querulous, psychotic and extremely short of breath. The heart was fibrillating, rate 110. No rub was heard. The bases of the lungs were full of coarse moist râles. The legs were very edematous. The Cheyne-Stokes' respiration continued until March 6. By the 11th the heart condition had quieted down but the patient was extremely dyspneic and constantly psychotic. March 17 his legs and genitals were enormously swollen and he looked moribund. He made a little improvement for a day or two, but soon was worse than ever. For the next month he seemed about to die at any time. Massive edema extended to the upper extremities. April 17 he died.

Discussion

by Richard C. Cabot, M.D.

Notes on the History

A lipoma, if it is big enough actually to inconvenience one, is worth taking out. But in about half the people I examine I find a lipoma somewhere. Ordinarily I say nothing. If they know about it they may begin worrying about it, and think they have to have an operation.

We do not know whether this was what we should call rheumatism, or what he might happen to call it. What diagnosis did Dr. White make?

A Physician: Aortic stenosis.

A Physician: Mitral stenosis.

Dr. Cabot: The difficulty is that a presystolic rumble does not go with aortic stenosis. He might have made a diagnosis of aneurysm, of course. Without reading the diagnosis, will you read his findings as to the physical facts?

Miss Painter: "Heart enlarged. Supracardiac vessels enlarged. Should have Wassermann and X-ray seven-foot plate."

Dr. Cabot: He is thinking of aneurysm, but Dr. White does not say anything about a "presystolic rumble." It makes all the difference whether we hear it or somebody of less experience hears it.

Bricklayers ordinarily have helpers now. If there is somebody to carry up the bricks, just setting them is not what I should call hard work.

Palpitation ordinarily means fibrillation, but it may mean nothing but extra systoles; we cannot tell.

Presumably in his accident some of the veins were interfered with so that the venous return was not good.

Nycturia at his age and in his sex ordinarily means enlarged prostate, ordinarily does not mean any disease of the kidney or of any other organ except the prostate. If we have nycturia in a woman or in a younger man we always have to think of nephritis or of the passive congestion of the kidneys due to heart trouble.

This sense of severe pressure might mean merely the sense of oppression that we should any of us get if we ran fast and that cardiac patients get from passive congestion, or it might be an aneurysm, or it might conceivably be angina pectoris. It does not sound like the last because there is no mention of real pain.

Three weeks later is the first mention of definite pain that I have seen.

It was his left leg that was hurt, so we know that this edema was not due to his old accident.

At his age it is not at all likely that this history of tuberculosis has anything to do with his present troubles. If he has any tuberculosis it was probably healed long ago.

"Moderate drinker" is a very elastic phrase. It sometimes refers only to the ability to carry liquor, and the person who can "carry liquor" often gets the greatest harm from it. The man who cannot carry his has to stop drinking now and then, and so alcohol gets out of the system for a while. That is, I think "moderate drinking" as I have seen it defined often has been the kind that does people the most harm.

Notes on the Physical Examination

Ordinarily, certainly in nine cases out of ten, perforated nasal septum means syphilis. We ought, however, to say that it might be due to something else. One may have an ordinary septic nasal infection which causes perforation, although in the vast majority of cases it is due to syphilis.

Atrophied papillae, especially on the back of the tongue, goes with old syphilis,—a tongue smooth where it ought to be rough.

"Pulsation seen on both sides of the neck" suggests aortic regurgitation. The heaving precordium suggests the same thing.

The heart measurements are enormous. But this is all percussion. In the X-ray plate the heart certainly does look enormously wide. That plate probably has some distortion. It probably was not taken at seven feet and so there is some slight exaggeration of it. But the X-ray tends to back up what is said here; it tends to look as if the percussion was right. The supracardiac dullness is much increased. It is normally five and a half to six at its utmost in an adult.

This is what we call a "see-saw murmur."

Pulsation and thrill in the second right interspace could mean three things: aneurysm, aortic stenosis, congenital heart disease. We cannot get it from arteriosclerosis. We get a murmur, not a thrill. We cannot get it from any other cause that I know. We are thinking of two of those things. He is said to have rheumatism, therefore he may have aortic stenosis. He has had syphilis, so he may have aneurysm. The murmurs would do for either a rheumatic stenosis or for a syphilitic heart disease. The X-ray is much more like aortic unless there is aneurysm, and this plate does not look like aneurysm, although it does not exclude it. It was taken with a portable machine in the ward and is not a very good plate.

I do not think the thrill in the suprasternal notch means much. I do not know what it means.

The artery walls were too much thickened to make out whether the Corrigan quality was present or absent. The pulse pressure suggests Corrigan.

The P-R interval of .22 is practically normal. .20 is the average. It is the interval between the wave that corresponds with the auricle and the wave that corresponds with the ventricle. If they get working separately that interval is enlarged. It is practically a fifth of a second. Left axis deviation means a big left ventricle. The electrocardiogram does not help us particularly towards our pathological diagnosis.

The lung signs are all evidence of edema of the lungs.

There is no evidence of syphilis in the pupils.

"Knee-jerks and ankle-jerks not obtained" of course suggests tabes, but in a man as sick as this I do not think it means a great deal, especially as his pupils are all right.

There is a good swing in the urinary gravity, —no fixation of gravity. Nine examinations showed no albumin. I expect Dr. Mallory to say "normal kidneys."

There is slight leucocytosis. The reds are normal. The non-protein nitrogen is slightly increased, not enough however to make us say nephritis.

Reading between the lines of this X-ray report, it means that they do not know whether there is aneurysm or not. They think there may be, but they do not feel sure until they check it with the fluoroscope.

The patient had what is ordinarily called delirium at night.

We do not let any patient leave this hospital unless we know that he is going into decent care when he leaves. I think that is a very important point in hospital management. We pay a number of social service workers here for this among other tasks,—to see that people have a proper place to go before we turn them out, because of course we cannot keep chronic cases here, and the obligation of a hospital that does not keep chronic cases is to see them properly placed.

What should we judge from his developing Cheyne-Stokes breathing? We cannot judge anything as to diagnosis. We can have it from any severe disease of the brain, heart, kidney, and liver. It is of course a bad prognostic sign. It means ordinarily that the patient is not many weeks from his end.

DIFFERENTIAL DIAGNOSIS

He certainly died of congestive failure in heart disease. If one were making out the death certificate one certainly could say as much as that. But I want to discuss the question, did he die of syphilitic or of rheumatic heart disease? I think it makes some difference, especially to those coming after.

Let us take the question of aneurysm first. If he had syphilis he had aneurysm in all probability, although it is possible to have syphilis without aneurysm. Has he had pain characteristic of aneurysm? I should not say so. He has had pain, but that pain could be explained either by aneurysm or otherwise. He did not seem to have it in the hospital. He has had a thrill like that we should get with aneurysm. On the other hand we hear nothing about pulsation, so far as I remember.

A PHYSICIAN: "There was definite pulsation and thrill in the second right interspace."

DR. CABOT: I do not see how we can help saying that is aneurysm. I do not see what else would give definite pulsation and thrill at that point. He could have thrill but not pulsation in the second right interspace from anything else that I can think of. It is too high for the auricles, too low for the great vessels. Everything else goes with a syphilitic heart and aortic regurgitation, except that I should expect an even greater pulse pressure. The pulse pressure is not so great as I should expect with a syphilitic heart.

A PHYSICIAN: How about the duration of this?

DR. CABOT: We do not know about that first examination.

A PHYSICIAN: The dyspnea dates back seven years.

DR. CABOT: That is a good point. If he had heart trouble for seven years it probably was not syphilitic.

A PHYSICIAN: Seven years ago he had a

hacking cough. Isn't that one of the earliest symptoms of aneurysm?

DR. CABOT: Yes, but aneurysm does not often last seven years, and "hacking" is not what we ordinarily consider it. The textbook phrase is "brassy." We hear it sometimes with tumors pressing on the trachea and bronchi, and in children I think when there are glands pressing.

A PHYSICIAN: Like the so-called "thymus cough"?

DR. CABOT: Yes.

A PHYSICIAN: You said those murmurs in the early part of the history could be accounted for by aortic regurgitation or by stenosis, or do you mean both?

DR. CABOT: By a rheumatic lesion with stenosis and regurgitation, or by a syphilitic lesion with regurgitation only and an aneurysm to cause the pulsation. So far as the murmurs are concerned either will do, rheumatism or syphilis. I am really equally balanced myself. The pulsation however looks like aneurysm, and if aneurysm syphilis. I think there is a little to favor that, and so I am going to say syphilitic aortitis with aortic regurgitation and aneurysm, hypertrophy and dilatation of the heart, chronic passive congestion, and that is all.

A PHYSICIAN: How does it happen that they did not fluoroscope him?

DR. CABOT: We cannot fluoroscope in the wards.

MISS PAINTER: There was only one day that he was up, in February.

DR. CABOT: Of course if we could have got that it would probably have decided the case for us. The temperature goes about as well with one as with the other.

A PHYSICIAN: Do you think he had tuberculosis in his lungs too?

DR. CABOT: I am betting against that, simply on account of his age. If there is aneurysm we often get retention and so bronchiectasis in the lung, but generally in cases where pressure is much more obvious than it is here. One of the reasons I am chary about making a diagnosis of aneurysm is because we have no pressure signs. I do not like to make it without pressure signs, yet on the whole it seems to me the thing to say.

A PHYSICIAN: If the aneurysm was just above the heart and a little below the arch one would not be likely to get the pressure symptoms so plainly.

DR. CABOT: No. It is perfectly possible.

A PHYSICIAN: Would there be any way of determining whether there was an aneurysm by the apex pulse and the wrist pulse?

DR. CABOT: If there were a difference in the two sides that would suggest it.

A PHYSICIAN: Would you say arteriosclerosis?

DR. CABOT: Yes, on general principles. They thought so.

INTERPRETATION OF X-RAY JANUARY 31

The change in the width of the mediastinal shadow may be due to a large aneurysm, but this appearance should be checked by fluoroscopic observation.

CLINICAL DIAGNOSIS (FROM HOSPITAL RECORD)

Luetic heart disease with congestive failure.

DR. RICHARD C. CABOT'S DIAGNOSIS

Syphilitic aortitis with aortic regurgitation.
Aneurysm.
Hypertrophy and dilatation of the heart.
Arteriosclerosis.
Chronic passive congestion.

ANATOMIC DIAGNOSES

1. *Primary fatal lesion*

Arteriosclerotic heart disease—aortic stenosis and insufficiency.

2. *Secondary or terminal lesions*

Hypertrophy and dilatation of the heart.
Chronic passive congestion.
Arteriosclerosis of the aorta.

3. *Historical landmarks*

Aneurysm of left iliac artery.
Left inguinal varices.

DR. MALLORY: The man did have an aneurysm, but it was not in the place where it was suspected. It was in the left iliac artery. The aorta was rather dilated, but not beyond the extent to which we very commonly see it dilated in elderly persons with arteriosclerosis. The heart was perfectly enormous, weighing 925 grams, almost a kilogram.

DR. CABOT: That is about three times as big as it ought to be.

DR. MALLORY: The left ventricle wall was thirty millimeters thick. The valves were negative except for the aortic, which was tremendously thickened, with irregular, rough, calcified masses; so that there was no elasticity of the ring at all, and there must have been a considerable degree of stenosis and regurgitation. There was nothing in the aorta itself that we could definitely say was syphilis.

This aneurysm in the left iliac artery may possibly have been syphilitic in origin, may also possibly have been traumatic, connected with the injury which is said to have caused his varicocele there. Sections showed no positive evidence of syphilis.

There was no tuberculosis of the lungs. The other organs showed only chronic passive congestion and a very slight degree of arteriosclerotic nephritis, not enough to cause any symptoms.

A PHYSICIAN: May I ask what was the diagnosis before necropsy?

DR. MALLORY: Luetic heart disease with congestive failure.

DR. CABOT: They made the same mistake we did.

A PHYSICIAN: When you spoke of aneurysm being syphilitic did you mean of just the aorta?

DR. CABOT: No; I meant of any part where we can exclude trauma.

A PHYSICIAN: How do you account for the pulsation?

DR. CABOT: I do not know how to account for it. We have to say, I suppose, that it is this big arteriosclerotic aorta pushing up there.

A PHYSICIAN: Isn't it very unusual?

DR. CABOT: It is not the commonest thing, but it is not very rare. There were twenty-eight cases in my series.

A PHYSICIAN: Were Aschoff bodies found?

DR. MALLORY: No. They are pretty difficult things to find even in acute cases.

CASE 13372

AN UNUSUAL LESION OF THE SPINAL CORD

SURGICAL DEPARTMENT

An unmarried American clerk twenty-one years old entered January 31.

For two years she had had a sense of stiffness in her left leg and dragged it. She had had trouble in putting on her shoe or getting shoes fitted. She could not put the foot where she wanted it. December 26, a month before admission, she caught "flu"—cold in the chest, weakness, soreness of muscles, not much temperature. She was in bed one week. On getting up she felt weak and had difficulty with the right leg. She worked for a week with considerable difficulty. Then the leg suddenly gave way and she fell, hurting her knee considerably. She had had several other falls since that time, and had been unable to work. The right leg felt stiff, but not like the other one. It felt longer than the other, and "slid out from under her." Sensory disturbance was slight. There was some feeling of numbness in the legs, slight pain in the hamstrings on lifting the leg out straight, and some aching in the left side of the back. She had no symptoms above the umbilicus.

Her father died of heart trouble. He had been somewhat "nervous" and never very well. One brother died at twenty-two of hemorrhage (?). The family in general were somewhat "nervous."

The patient had scarlet fever at eleven years. Two years before admission she hurt herself bending backwards and had pain in the right costovertebral angle thought to be possibly kidney trouble, possibly muscle strain. She had frequent head colds and rare sore throats. Her appetite was only fair. Her bowels were constipated. For two years she had had pain at times when she got tired. Her catamenia had been irregular for the past two months. She had occasional slight pain in the left lower quadrant at menstruation, rarely at other times.

Clinical examination. A well developed and nourished girl. Slight tremor of the hands. Throat slightly injected. Heart and lungs normal. Pupils and fundi normal. Slight nystagmus on extreme lateral deviation of the eyes. Weakness of the legs. Heel-to-knee test done very poorly with eyes open, worse with eyes closed. The disability seemed chiefly an inability to find position. No special overshooting of mark. When she lifted her legs from the bed the right came up with a wobbly motion and deviated inward. No atrophy. No spasticity. Legs if anything slightly hypotonic, more markedly in the right. Slight soreness behind the knee on doing Kernig's test. The extension was almost complete, but dorsiflexion was not complete; more incomplete on the left. (Contraction?) Touch seemed diminished in both legs below the iliac spines. This was more marked at the periphery and faded out above so that no definite level was obtainable. Pain sense was as touch. Sensation of heat and cold was tested and was not definitely abnormal. Passive movement was lost in both feet, diminished in both ankles and knees. Vibratory sense possibly diminished in legs. Questionable slight tenderness in the calves. Pupils normal. Abdominal reflexes: only definite response obtained was from the right upper quadrant. Right biceps tendon reflex absent. Right radioperiosteal diminished. Left arm reflexes normal. Both knee-jerks absent with reinforcement. Right ankle-jerk increased, left less. No clonus or Babinski. No definite response to plantar stimulation. She stood with slight sway, made much worse with the eyes closed. Gait markedly ataxic. Feet inverted. Toes turned out. Feet held stiff, although not in the usual spastic attitude, looked more like a conscious fixation. Knees not spastic. Said she could not tell where her feet were. Her right foot felt "as if she were walking on one bone." Sphincter: slight difficulty in starting the urinary stream, especially in the morning.

Amount of urine not recorded, specific gravity 1.012 to 1.015, alkaline at one of two examinations, no albumin or sugar, rare red and white cells at one of two sediment examinations. Blood: 18,100 leucocytes, 70 per cent. polynuclears, reds and platelets normal. Blood Wassermann not recorded. Cerebrospinal fluid highly xanthochromic. Initial pressure 100. No rise on jugular compression. After withdrawal of 3 cubic centimeters pressure to below 40. Cells, 5 leucocytes, 1,765 red blood corpuscles. Total protein 5,400. Cistern fluid slightly blood tinged. Initial pressure 100, right jugular compression 170, left jugular 150, combined jugular 230, after return 100, after withdrawal of 5

cubic centimeters 50. Cells, 2 leucocytes, 174 red blood cells. Total protein 125. Alcohol positive. Ammonium sulphate negative. Goldsol 0112110000. One cubic centimeter lipiodol injected into cistern.

X-ray examination February 7 showed the mass of the lipiodol blocked opposite the junction of the cervical and the dorsal spine. Part of the oil however extended downward along the cord as low as the twelfth dorsal. There was practically no change in the position of the oil in the plates taken February 2, 3, and 7.

Before operation temperature 98° to 99.5°, pulse 80 to 108, respirations normal.

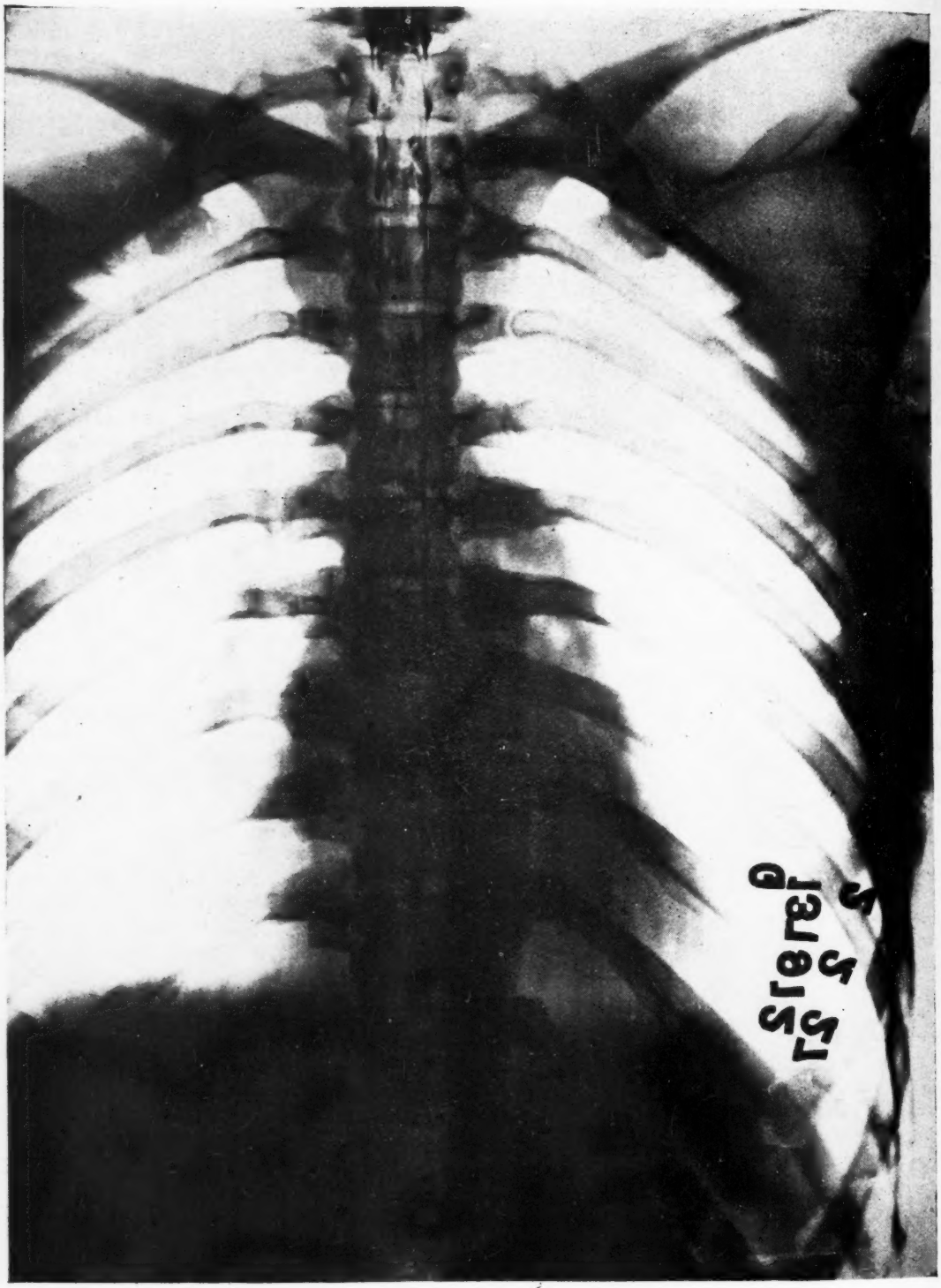


PLATE I. Taken February 2. See Plate II.

February 9 operation was done. The patient made a normal convalescence and by February 13 was afebrile. February 27 she was sitting up in a wheel chair. A course of X-ray therapy was given, completed March 5. After it she had bladder paralysis and sensory anesthesia of both legs for a few days. By March 14 she was feeling very well. She could not walk any better than before the operation and neurologically was in the same condition as at admission. March 15 she was discharged, to return in two months.

April 21 she returned to the Tumor Clinic for observation. She showed definite improvement since the last visit. Her appetite was good. She was gaining weight. She was now able to walk with the aid of a cane, a thing which was impossible six weeks earlier. Sensation to heat and cold, which was absent in the right leg at the

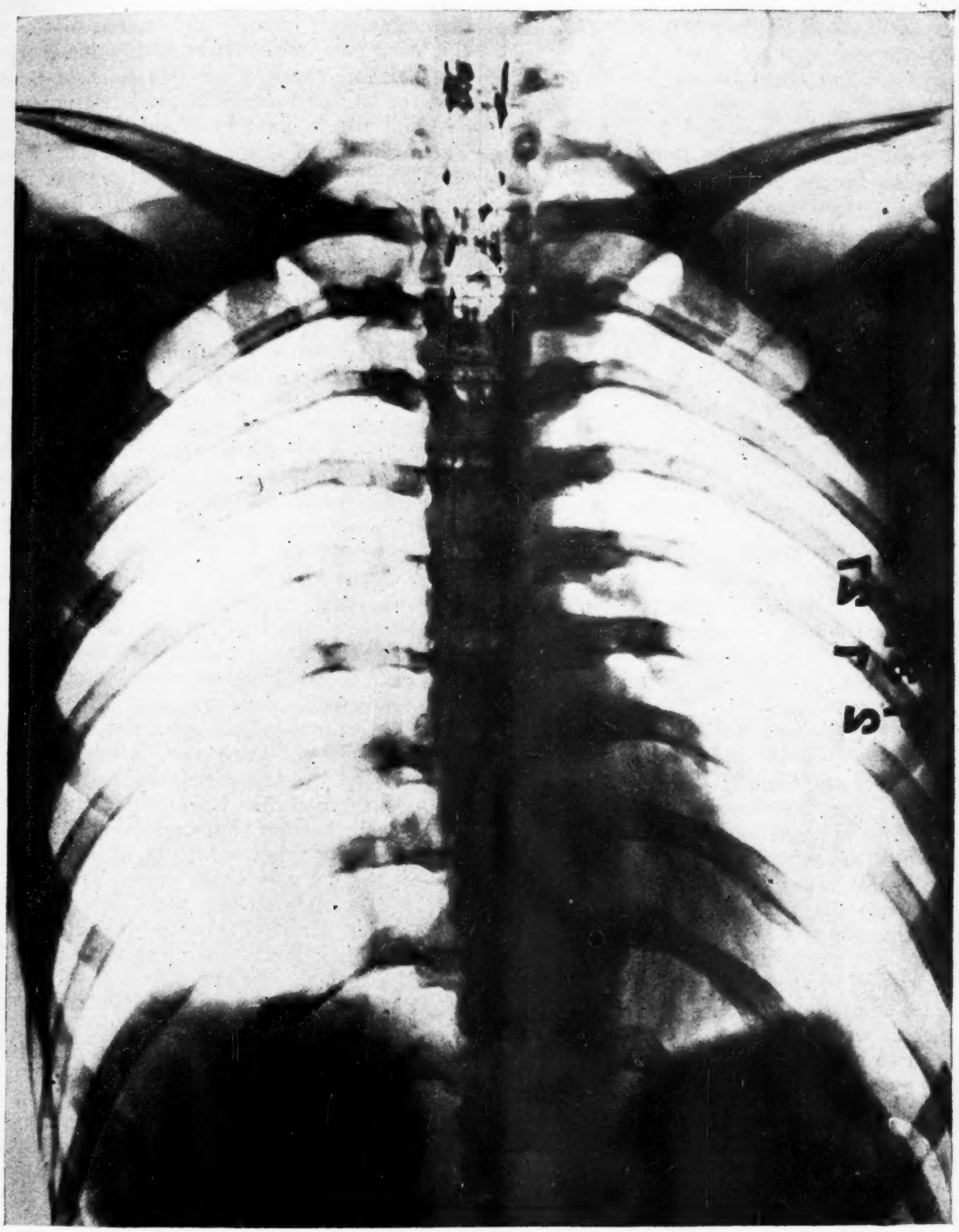


PLATE II. Taken February 7. The mass of the lipiodol is blocked opposite the junction of the cervical and the dorsal spine. Part of the oil however extends downward along the cord as low as the twelfth dorsal. There is practically no change in the position of the oil in the plates taken February 2, 3, and 7.

time of discharge, had returned. Further X-ray therapy was advised.

April 27 she was readmitted to the wards for another course of X-ray treatments. She had improved both objectively and subjectively. She was given five more treatments to the upper and lower spine. April 30 she was discharged.

Discussion

BY W. JASON MIXTER, M.D.

The past history and the family history are negative so far as the present illness is concerned.

Nystagmus taken in connection with any spinal cord lesion makes one suspicious of multiple sclerosis or some other degenerative process, because we find that the degenerative processes in the cord may seem to be fairly well localized, whereas the first sign of trouble of the same sort in the brain may be a nystagmus.

Is there a diagram of sensation?

Miss Painter: No.

Dr. Mixter: In any neurological examination the most satisfactory form of examination is the diagram.

"No definite response to plantar stimulation" is a more definite statement than that there was no Babinski.

The neurological examination, taken in connection with the history, would suggest a lesion of the spinal cord or cauda equina. It must involve the spinal cord, because she has sensory changes up to umbilicus. The knee-jerks are diminished rather than increased, which would suggest probably a lesion of the cauda equina rather than of the cord.

We notice that the only change above the umbilicus, either of sensation or reflexes, is that the right biceps tendon reflex is absent and the right radioperiosteal reflex is diminished. That is a comparatively slight abnormality, but one which must be thought of pretty carefully in a case of this sort. We must always, in examining spinal cord cases, find what is the top level of our lesion, and place our lesion as near the top level of disturbance as we may.

Of course in this case we have a definite nystagmus, even though slight. All of these symptoms and signs are so indefinite in their location that it is very easy to make a diagnosis of some degenerative lesion rather than of a lesion causing cord compression.

The urine was negative.

The leucocytes were increased. I do not see how an increased leucocyte count can have any great amount of bearing on this case.

There is a very high total protein in the spinal fluid. The cells were normal. There had evidently been a slight amount of injury at the time of the spinal puncture. The total protein of 140 by cistern puncture is somewhat increased, but is far below the protein found in the lumbar space. Here we have very definite evidence of total block in the cerebrospinal fluid circulation, with a marked increase in protein below the block, changing our tentative diagnosis of some degenerative lesion to cord compression.

In analyzing the history we must say that most of the factors which we have would suggest that this cord compression was in the dorsal region. At the same time we have to consider the fact that the tendon reflexes in the left arm were absent and also we have to consider the nystagmus. The nystagmus I think we can throw out because occasionally we do find a nystagmus in normal individuals. The nystagmus could hardly have any part in the cord compression. The suggested level then is rather low, probably not above the middorsal region, is indefinite, and is made more indefinite by the possibility that the level must be raised to take in the change in arm reflexes. As a matter of fact the change in arm reflexes is so slight that I should be tempted to throw that out and say that the probable level of cord compression was in the middorsal region. That of course is more or less contrary to our own teaching, that one must place the level at the upper level of neurological disturbance.

Dr. Camp, will you tell us about the X-ray findings?

Dr. John D. Camp: These are the plates made the first day and after the injection of lipiodol. This shows the beginning of the lipiodol injection in the cistern. We have no upper limit, so I do not know whether it stopped at the sixth or seventh or about that junction. The lipiodol dropped to this level, and we have here the appearance of pressure. In addition to that we see a small stream trickling down on that side. Normally when lipiodol gets by a block it drops to the bottom of the spinal canal and does not hold up in this fashion; or at least if it does it stays there a very short period of time.

Here is a plate made a little later at a higher level, which shows that while some has gone by the greater portion is still up in the region of the seventh cervical, and appears to be pressed out. Opposite the level of about the ninth dorsal vertebra the oil is particularly pressed out.

The plate made lower down in the lumbar region shows that none of the lipiodol had reached a level below the first lumbar. In normal cases it drops very promptly to the bottom. There is evidently a beginning obstruction at the level of the seventh cervical and rather an atypical type. Ordinarily we have this typical tenting with the absence of lipiodol below, but this holding up of lipiodol is unusual except in cases of pachymeningitis, where we have numerous adhesions and the lipiodol is held up by these adhesions. This rather suggests that, although the upper defect suggests tumor.

A plate made the next day shows the lipiodol in the same position, and one four days later shows it still in about the same position,—evi-

dently a block which we interpret as being due to a tumor with rather atypical findings below, which we are unable to explain.

DR. MIXTER: I should like to say a word about these X-ray findings. In this instance we have, as Dr. Camp has already suggested, these narrow streaks of lipiodol coming down on each side of the spinal cord, with comma-like masses of lipiodol spaced at regular intervals, namely at the points of exit of the spinal nerves, and these masses are larger at the points of exit of the larger nerves. Previous to this case we had seen a few cases that had given a similar picture, as a rule only extending over two or three or at most four segments. As Dr. Camp has said, we had seen certain cases that showed a more or less similar picture, cases of pachymeningitis. But in pachymeningitis the spacing of the lipiodol was much more irregular. I felt that an X-ray plate such as this could only be adequately explained on the ground that we had a very long fusiform swelling of the cord, probably by a neoplasm either on its surface or imbedded in the structure of the cord itself, more probably the latter, because the surface neoplasms are not so extensive and do not give this finding which we believe suggests a fusiform swelling of the cord itself.

A PHYSICIAN: Did you ever have a localized lesion in the spinal cord that produced enough pressure symptoms to give edema of the pia and produce this effect from swelling?

DR. MIXTER: You mean a lesion similar to the subarachnoid collections of fluid which we find in the brain?

A PHYSICIAN: Yes. They give such a widespread edema.

DR. MIXTER: That might be considered, except that the anatomy of the pia is so different in the spinal cord from the anatomy of the pia over the cortex. The pia stands off from the spinal cord, whereas over the cortex it lies very closely associated with the cortex. Now if we have an increase in cerebrospinal fluid beneath the pia over the cortex, we have a localized collection of cerebrospinal fluid more or less walled off by some process round about, or by a fault in absorption. In the spinal cord, on the other hand, there is such a wide space between the pia and the cord itself that the cerebrospinal fluid can always circulate up and down. The swelling which we see over the cortex is not a true edema but a collection of cerebrospinal fluid beneath the pia in that region.

X-RAY INTERPRETATION FEBRUARY 7

"I believe that the examination shows evidence of a block opposite the cervicodorsal junction."

PRE-OPERATIVE DIAGNOSIS

Tumor of the spinal cord.

OPERATION

Gas and ether. Incision from the seventh cervical to the sixth dorsal inclusive. Much bleeding. On opening the dura a diffuse brownish tumor presented the full length of the wound, overlying the spinal cord and apparently in the subarachnoid space, as the growth was pierced by the dorsal roots and the arachnoid vessels. Several attempts were made to reach the cord on each side with the idea of lifting the tumor from it if that were possible, but on account of the hemorrhage all these attempts had to be given up. A small specimen was taken for diagnosis and the wound in the dura was left wide open. The muscles were closed with catgut and the skin with silk.

PATHOLOGICAL REPORT

A tiny fragment showing on miscroscopic examination a tumor composed of small inactive cells which are not lymphocytes. The numerous small blood vessels with hyalin degenerate cells are consistent with arachnoid fibroma.

FURTHER DISCUSSION

In other words we had an arachnoidal tumor extending from the lower cervical region down as far as the incision was carried, filling the whole spinal canal and giving the same picture which we have always associated with a fusiform swelling of the cord itself.

The characteristics of this tumor grossly were a very vascular, soft growth, suggesting rapid progress and not suggesting either arachnoid fibroma or glioma. It seemed to be traversed by numerous blood vessels, and was more consistent with some form of angioma than with any of the ordinary tumors met with in the spinal canal.

We will ask Dr. Richardson to discuss the pathological report.

DR. OSCAR RICHARDSON: From your description of it I should have been inclined to think it was an angiofibroma rather than a glioma.

DR. MIXTER: Of course that is synonymous with meningioma and endothelioma.

DR. RICHARDSON: Yes.

DR. MIXTER: Cushing simply calls them meningioma.

There was some bladder disturbance and sensory anesthesia. She has definitely improved since that time. She has been having X-ray therapy in the hope that it will cause a shrinking of the growth, although we do not feel satisfied that we know with what type of growth we are dealing. Dr. Hartwell's report says that it is consistent with arachnoid fibroma. I do not think Dr. Hartwell would be willing to make any more positive statement than that. Personally I have no idea what the etiology of that tumor is.

A PHYSICIAN: What is your prognosis in this case?

DR. MIXTER: The prognosis of course must

be essentially bad. I believe that she will be improved by her radiation and that she may go on for a good many months or possibly years, but always as a person of very limited activities; that ultimately she will get complete cord compression with paralysis and death. But the cells are evidently rather inactive although the lesion is a soft one, so that we should expect a slow growth.

The greatest interest in this case is the X-ray examination, particularly the fact that the X-ray examination demonstrates a lesion so much higher than that which we had expected to find from our clinical data.

DIAGNOSIS

Tumor of the spinal cord, probably angioma.

NEW SCHOOL FOR SOCIAL RESEARCH

THERE is at least one school in the world where the doctor has the chance for a hearing with the general public, and where his discoveries, his research struggles, his conclusions, and his doctrines of ethics, are interpreted according to his own dictates. That is the New School for Social Research, at 465 West 23rd Street, New York, where for the last eight years men and women of adult years have been coming, in increasing numbers, to attend lectures after business hours. All courses are held at 5:20 and 8:20 o'clock, as the great majority of students are business and profesional women. Approximately half of the number are college graduates. This School is unique, in that no entrance requirements are in effect, and no provisions are made for examinations or credits. Last year's attendance numbered 1,864, of whom 653 were men. In this number there were 39 physicians, 19 dentists, 5 psychologists, 375 teachers, and 254 social workers, including nurses, and 93 research workers in various fields. The average age of these class room students is from 25 to 40 years.

A notable group of medical men will lecture at the New School for Social Research, this year, according to the recent announcement of the Director, Dr. Alvin S. Johnson. One of the most important new courses, for the coming year, which will begin the week of September twenty-sixth, continuing until the Christmas holidays, will be a course of lectures on "Recent Progress in Medicine and Surgery," by the country's most distinguished specialists. In his announcement of this new course, the Director states: "While the lectures are intended for a lay public, the majority of whom are college graduates, a great many physicians and nurses will no doubt be found in the audience. We are trying to work in the borderland between professional instruction and 'popular' exposition, believing that there is at present a very great need for this sort of work."

Dr. Simon Flexner, Director of the Rockefeller Institute, will deliver the opening lecture of the course, on Thursday evening, September 29th. A partial list of the succeeding lecturers includes: Dr. Walter B. Cannon of Harvard, Dr. Lewellys Barker of Johns Hopkins, Dr. Francis Carter Wood of Columbia, Dr. Charles B. Chapin, Superintendent of the Board of Health at Providence, and Dr. Louis I. Dublin, Statistician of the Metropolitan Life Insurance Company. Lecture topics for the series include: Endocrine Glands; Problems of Nutrition; Tissue Culture and Physiology; Vital Statistics; Insurance and Life Extension; Industrial Diseases; Immunity; Epidemiology; Specific Therapy; The Problem of Nervous Diseases; The Cancer Problem; The Problem of Heart Disease.

Among other important courses, pertaining to some field of medical or physiological research offered at the New School, are: Dr. Arthur Frank Payne, Analysis of Individuals for Guidance Purposes; Dr. Frankwood E. Williams, Mental Hygiene, Its Personal and Social Aspects; Dr. Dudley D. Schoenfeld, The Recognition, Interpretation and Treatment of Conduct Disorders Occurring in School Children; Dr. Ira S. Wile, Psychological Determinisms in Conduct.

Complete information regarding registration for any of these courses may be obtained, by mail or in person, from the office of the Secretary of the New School for Social Research, at 465 West 23rd Street, New York City.

INTERNATIONAL FIRST-AID AND MINE-RESCUE CONTEST AT PITTSBURGH

FORTY-NINE first-aid teams and 19 mine rescue teams, representing coal and metal mines, quarries and oil-producing operations in 13 states, competed at the Sixth International First-Aid and Mine-Rescue Contest, held under the auspices of the United States Bureau of Mines, Department of Commerce, at Pittsburgh, Pa., August 30 and 31, and September 1. The states represented in this demonstration of approved methods of saving life in the mineral industries were: Arizona, California, Colorado, Illinois, Indiana, Kentucky, Maryland, Pennsylvania, Louisiana, Montana, Utah, Virginia, and West Virginia. The Bureau of Mines made the contest the occasion for calling in the members of its considerable force of field men for the purpose of instructing them in the latest mine-safety and mine-rescue methods.

The first-aid contest was conducted on the afternoons of August 30 and 31, at Pittsburgh Stadium. The mine-rescue contest was held September 1, at Carnegie Institute of Technology. On August 31, demonstrations in the explosibility of coal-dust and the testing of explosives were staged at the Experimental Mine of the Bureau of Mines at Bruceton, Pa., near Pittsburgh. These demonstrations were highly spectacular in nature.—*Bulletin of the Department of Commerce, Washington.*

THE BOSTON
Medical and Surgical Journal

Established in 1828

Published by The Massachusetts Medical Society under the jurisdiction of the following-named committee:

For three years JOHN W. BARTOL, M.D.
HORACE D. ARNOLD, M.D.
CHANNING FROTHINGHAM, M.D.

For two years HOMER GAGE, M.D., *Chairman*
EDWARD C. STREETER, M.D.
EDWARD W. TAYLOR, M.D.

For one year WILLIAM H. ROBEY, JR., M.D.
ROGER I. LEE, M.D.
ROBERT B. OSGOOD, M.D.

EDITORIAL STAFF

DAVID L. EDSALL, M.D.
REID HUNT, M.D.
FRANCIS W. PEABODY, M.D.
JOHN P. SUTHERLAND, M.D.
GEORGE R. MINOT, M.D.
FRANK H. LAHEY, M.D.
STEPHEN RUSHMORE, M.D.
HANS ZINSSER, M.D.
BENJAMIN WHITE, PH.D.
HENRY R. VIETS, M.D.
ROBERT N. NYE, M.D.
SHIELDS WARREN, M.D.

WALTER P. BOWERS, M.D., *Managing Editor*

ASSOCIATE EDITORS

GEORGE G. SMITH, M.D.
WILLIAM B. BREED, M.D.
JOSEPH GARLAND, M.D.

SUBSCRIPTION TERMS: *$6.00 per year in advance, postage paid for the United States, $7.56 per year for all foreign countries belonging to the Postal Union.*

Material for early publication should be received not later than noon on Saturday. Orders for reprints must be sent to the Journal office, 126 Massachusetts Ave.

The Journal does not hold itself responsible for statements made by any contributor.

Communications should be addressed to The Boston Medical and Surgical Journal, 126 Massachusetts Ave., Boston, Mass.

FREE MEDICAL SERVICE—ARE THERE ANY REMEDIES?

THE President of the Wisconsin State Medical Society states that "Eight million of our people were treated gratuitously in the free clinics and hospitals last year." He describes some of the patients frequenting dispensaries and free clinics as clad in furs and other finery and driving up in taxi cabs or palatial cars.

We assume that his figures apply to the whole country and even so it would mean that approximately one out of about every fifteen persons secures medical attention at dispensaries and clinics for nothing or at low rates, thereby depriving physicians of legitimate incomes. The wonder is that the medical profession is as complacent as appears to be the case, for in addition to this great loss in income most doctors are contributing free service to an unduly large proportion of patients in private practice. Millions of dollars could be contributed to the income of doctors who need this added revenue if the profession would unite in protest to the boards in charge of charitable medical institutions. The writer happens to travel in a conveyance which is used by a large number of attendants upon the clinics of one of Boston's large hospitals, and some of these people present external evidence of being in comfortable circumstances, so that the comments of the President of the Wisconsin Society are probably based on facts.

We deplore the tendencies of the times to exploit the medical profession, but we suffer almost in silence. Occasionally a voice is raised in protest but no concerted action results. The doctors in charge of the clinics find excellent opportunities for study and experience, and cannot be expected to analyze the financial status of patients. This should be a responsibility of the hospital management, but fairness demands recognition of the difficulties inherent in dealing justly with the various human elements in the crowds appealing for service in large clinics.

If every State medical society would employ an efficiency expert to study the abuses heaped upon the profession and formulate plans for correcting these evils, both the people and the patients would be better off. This of course involves expense, but some doctors might be willing to pay larger annual dues if wise expenditure of money brought corresponding benefits.

We pay our taxes to have the protection of fire and police departments and the general comforts and advantages of libraries, schools, etc. We may well learn a lesson from some of the cults for it is reported that certain organizations of these classes pay large assessments for propaganda and appeals for recognition by legislatures.

The changing conditions of society will compel the medical profession to take cognizance of certain matters outside the routine of practice, for community responsibilities imply coöperation with others of equal ability in maintaining standards of living. Doctors cannot live in garrets, and they owe to their dependents the advantages of education and comfortable surroundings.

Collectively and individually in common with other workers medical men need that assurance of success which may in many instances depend upon judicious propaganda.

In matters of law and finance the doctor should depend on expert service. In the broad functions of society activities and public education we need capable representatives.

As a class we are poor advocates, untrained in debate and unfamiliar with political maneuvers. Most of us would be better off if we applied ourselves closely to the duties of the hour and contributed funds to the society which could be applied in perfecting our organization by employing those who have qualities of leadership.

Unless we are ready to spend money we will see ourselves distanced in the race.

We do not suggest maintaining lobbies or pay-

ing for votes but we feel that intelligent and loyal service may be secured at reasonable rates which will direct and supplement voluntary unpaid work. This is a subject worthy of debate.

AN IMPORTANT REPORT ON CANCER

FREDERICK L. HOFFMAN, LL.D., Consulting Statistician Prudential Insurance Company of America, has prepared the fourth preliminary report of the San Francisco Cancer Survey, containing the consolidated report for the Seventh and Eighth Quarters covering the six months ending June 30, 1926.

Hoffman's reports are based on the study of 35,000 cancer death certificates and 3,000 questions concerning living cancer patients in San Francisco, Buffalo, New Orleans, the State of Massachusetts, the Mayo Clinic, Newark, N. J., and Battle Creek, Michigan. The survey has been extended to several Canadian provinces. Plans for still further extension of the scope of the survey are under consideration.

The aim of the survey is to discover facts which may be dealt with by research workers who are qualified to consider questions of etiology and treatment.

The questionnaire used by Hoffman has been largely adopted by the Massachusetts Cancer Commission.

Hoffman's conclusions are as follows:

1. Cancer is unquestionably on the increase in proportion to the population, but varies widely in its local incidence, according to the organs and parts affected. These variations have heretofore received only slight attention, although deserving of extended consideration as perhaps the most promising line of inquiry yielding definite results.

2. The parasitical theory of cancer is disproven by the detailed analysis of cancer deaths by streets and houses in the different cities which have been locally investigated. Additional information upon this phase of the problem will be forthcoming in course of time.

3. The investigation clearly shows that there is no seasonal prevalence of cancer such as would be the case if the disease were of parasitical origin.

4. Data concerning cancer deaths in hospitals clearly show that in its terminal stages cancer receives hospital attention in more than one-half of the deaths recorded. Almost the same conclusion applies to operative treatment. If these facts were clearly recognized by the public it would be apparent that the inexcusable delay which now intervenes between the earliest recognition and the earliest qualified treatment could be materially reduced and to the decided benefit of the patient.

5. Cancer statistics of Montreal clearly indicate profound variations in the cancer liability of the French Canadian population and the population of other racial origins. This phase of the question will, however, be further pursued, but a considerable amount of available information is made public in the question in the present publication.

6. Upon the question of cancer in native races, a special publication has been issued and is now available to those who are interested in this aspect of the cancer problem. As yet the material has not been dealt with for San Francisco and other cities on the basis of the racial distribution of the population, but it is in prospect. An extended study of the cancer situation in Mexico was made during last summer, and the results of that investigation will also be published in due course of time, probably in the publication of the Cancer Research Society. In a general way the results of my investigations among the Indians of the Southwest and the Indians of Mexico were entirely negative and suggestive of the fact that cancer is extremely rare among populations not living in close contact or under the identical conditions of civilized populations.

7. As yet the questionnaires have not been dealt with on a sufficient scale or in final form to justify definite conclusions. The indications are, however, that the results will show the profound influence of an excessive diet of either meat or sugar or both and the direct relation of excessive smoking habits in cancer of the buccal cavity. The investigation will further show the presence of intestinal stasis in a large proportion of the cancer cases under observation. The evidence of heredity as an important factor is largely in the negative. The most important conclusion derived from the investigation is the lamentable unnecessary delay in qualified treatment made evident by the relatively long average known duration of the disease, particularly in certain organs and parts. The information published upon this phase of the question covers the most extensive observations ever made public. It represents facts of the very first importance to physicians and surgeons who are daily confronted by inoperable cases which do not admit of a curative prognosis. It is my firm belief that as a result of the knowlege which has been acquired, probably one-third of the cancer deaths could have easily been prevented if treatment had been more prompt and more qualified.

8. While the present investigation is not primarily concerned with cancer treatment, considerable data has come to my attention, which seem to justify the conviction that the only hopeful treatment of cancer is by means of surgery, radium, diathermy and cautery, or any of these in combination with each other as may seem best to the surgeon in charge. The evidence is overwhelming that a large number of persons are living today and have been operated upon or treated by proper methods for cancer affections who would certainly have died years ago if it were not for the timely interference with the cancerous growth. Such investigation as I have

personally made of alleged medical cancer cures have but led to the conclusion that they are a dangerous imposition upon public credulity.

This report is of interest to all who wish to keep in touch with this important menace to human life.

THE TOXICOLOGY OF CARBON MONOXIDE

CARBON MONOXIDE has long been supposed to be poisonous only in a negative way because of its affinity for hemoglobin, thereby forming C. O. hemoglobin which prevents the union of oxygen and hemoglobin; the result being oxygen starvation.

The combining power of hemoglobin and carbon monoxide is supposed to be about two hundred times that of oxygen and hemoglobin.

Carbon monoxide is now regarded by Warburg, as reported in *Science*, to have definite poisonous properties according to experiments conducted with plants and moths. Other observers confirm these conclusions which may lead to studies of the poisonous qualities of carbon monoxide which figures so prominently in the etiology of accidental and suicidal deaths.

AN ATTEMPT AT INTIMIDATION

THE *British Medical Journal* reports that former methods designed to intimidate physicians are being revived by the antivivisectionists.

The approach to doctors consists of letters asking information with respect to the attitude of the recipients toward animal experimentation with the information that there are many people who desire to consult only those doctors who discountenance vivisection.

We have never known of such insulting suggestions on this side of the ocean and hope that the objectors to animal experimentation in this country are not given to this form of indecency.

THIS WEEK'S ISSUE

CONTAINS articles by the following named authors:

CHADWICK, HENRY D. M.D. Harvard 1895, Formerly Superintendent of Vermont Sanatorium, Acting Director of the Division of Tuberculosis, Massachusetts State Department of Public Health, now Superintendent of Westfield State Sanatorium and Chief of Clinics of the Massachusetts Department of Public Health. His subject is: "The Tuberculosis Situation in Massachusetts." Page 415. Address: Westfield State Sanatorium, Westfield, Mass.

EMERSON, ERNEST B. M.D. Harvard 1898, Superintendent of the Rutland State Sanatorium. His subject is: "Treatment of Pulmonary Tuberculosis." Page 419. Address: Rutland State Sanatorium, Rutland, Mass.

WILLOUGHBY, EARLE C. M.D. Tufts Medical School 1911, Asst. Superintendent, North Reading State Sanatorium. His subject is: "Incident of Contagious Disease in Sanatoria." Page 422. Address: North Reading State Sanatorium, North Wilmington, Mass.

ALLEY, LEON A. M.D. Tufts Medical College 1915, Superintendent Lakeville State Sanatorium, Formerly Asst. Superintendent Rutland State Sanatorium and Asst. Physician Boston Sanatorium. His subject is: "Sanatorium Treatment of Extra-Pulmonary Tuberculosis." Page 424. Address: Lakeville State Sanatorium, Middleboro, Mass.

WAGNER, H. S. Ph.B., M.D. University of Michigan 1903, Superintendent Barnstable County Sanatorium. His subject is: "Concerning the Admission of Non-Tuberculous Patients to a Tuberculosis Hospital." Page 426. Address: Pocasset, Mass.

PETTINGILL, OLIN S. M.D. Bowdoin Medical School 1908, Superintendent Essex Sanatorium. Address: Essex Sanatorium, Middleton, Mass. Associated with him is:

STANHOPE, ALVIN H. M.D. University of Vermont College of Medicine 1887. They write on: "Pleurisy with Effusion; Treatment and Prognosis." Page 428. Address: Middleton, Mass.

FLYNN, WILLIAM A. M.D. Tufts Medical College 1923. His subject is: "Suppression of Kidney Function Following Absorption of Bichloride of Mercury." Page 436. Address: 134 Main Street, Amesbury, Mass.

MISCELLANY

NEW STEP IN INTERNATIONAL RELATIONS OF PHYSICIANS

THE cordial relations of the physicians of America, North and South, and their colleagues of the Old World were further expressed by the appointment of American representatives to the editorial cabinet of the *Acta Dermato-Venereologica*, published under the direction of Dr. Johan Almkvist of Stockholm, Sweden. The nominees are: Howard Morrow of San Francisco, Howard Fox of New York, J. B. Shelmire of Dallas, D. R. Smith of Toronto, Pardo Castello of Havana, and Herman Goodman of New York.

The *Acta Dermato-Venereologica* publishes original contributions in French, German, or English within the fields of dermatology, urology, and social hygiene, and items of interest of persons or progress in these specialties.

American literary contributions should be addressed to Dr. Herman Goodman, 18 East 89th Street, New York City.

A STUDY OF TEACHING PERSONNEL OF MEDICAL SCHOOLS BY THE ASSOCIATION OF AMERICAN MEDICAL COLLEGES

THIS Association, the Commission on Medical Education, and others are interested to know

more about the teaching personnel of medical schools of the United States and Canada. The undersigned has agreed to make such a study. The expenses will be met by the Commission. The final result will be published free for distribution. It is the intention at present to make a preliminary report at the next annual meeting of the Association.

A questionnaire has been sent to teachers in Medical Schools.

FRED C. ZAPFFE,
Secretary.

CHARLES A. DEWEY FUND

ACCORDING to a report from *Science,* the medical Schools of Harvard University and of the University of Rochester will be beneficiaries under the will of the late Dr. Charles A. Dewey. By the terms of the will his estate of nearly $1,000,000 will be held intact as the Charles A. Dewey Fund, the income to be devoted to the support of these schools. Dr. Dewey graduated from the University of Rochester and from the Harvard Medical School in 1880. In addition to this provision a gift of $100,000 is provided for the Rochester General Hospital as a memorial to Dr. Dewey's sister.

REGISTRATIONS SUSPENDED

AT a meeting of the Board of Registration held September 8, 1927, the registration of Dr. Wallace P. MacCallum, 409 Huntington Avenue, Boston, was suspended until further action. The charge was gross misconduct in the practice of his profession.

At the same meeting the registration of Dr Amancio J. Rivero, formerly of 71 Gainsboro Street, Boston, was suspended for gross misconduct in the practice of his profession as shown in the alleged attempt to secure registration by fraud.

RECENT DEATHS

DRAKE—DR. WILLIAM ABRAM DRAKE died at his home in North Weymouth, August 22, 1927, at the age of 77.

He was born in Concord, N. H., October 22, 1849, his family moving to Augusta, Me., when he was young. He attended school in Augusta, and, on the breaking out of the Civil War, enlisted in the First Maine Sharpshooters and then with the Twentieth Maine Volunteers, serving throughout the war. Returning to Augusta he attended a preparatory school and entered Bowdoin Medical College, where he was graduated in 1879. For a year he was acting assistant surgeon in the United States Marine Hospital Service and then settled in North Weymouth, where he had practiced since, until his retirement in 1925. Dr. Drake joined the Massachusetts Medical Society in 1883. In 1902 and 1903 he was president of the Norfolk South District Medical Society. He was a member of the Masonic fraternity, and belonged to the Pilgrim Congregational Church of his home town.

He is survived by his wife and a son, Dr. Wallace H. Drake of North Weymouth, a member also of the State medical society.

EDDY—DR. GEORGE STETSON EDDY, a retired member of the Massachusetts Medical Society, died at Little Compton, R. I., August 22, 1927, at the age of 84. He had been a practicing physician of Fall River for over forty years when he retired in 1909.

Dr. Eddy was born in Rockaway, N. J., but his family came to Fall River when he was a child. He entered Harvard Medical School with the class of 1861. Before completing his course he left college to enlist for service in the Union forces, being assigned to the United States gunboat Gettysburg as surgeon. At the close of the war he returned to Harvard and completed his course with the class of 1866 and joined the State medical society. After retiring, Dr. Eddy went to reside in Newton. For the past seven years he had made his home with his daughter, Mrs. George H. Reed, in Winchester. He spent the summers at the summer home of the family in Little Compton. Dr. Eddy leaves four children.

GLEASON—DR. CHARLES SHERMAN GLEASON, a member of the Massachusetts Homeopathic Medical Society and a practitioner of Wareham, Mass., died suddenly at Bath, Me., August 23, 1927.

He was a graduate of Boston University School of Medicine in 1892 and had practiced in Wareham for thirty years. He was 65 years old and is survived by a widow and one son.

PECKHAM—DR. CHARLES FENNER PECKHAM, 59, a Providence physician, died at his summer home at Warwick Neck, R. I., August 17, 1927.

At the close of the Spanish American War, in which he served with the Naval Reserves, Dr. Peckham was appointed surgeon general of the State Militia and upon his retirement he was promoted to the rank of brigadier general. He was a member of the Army and Navy Club of Washington.

Born September 11, 1867, the son of the late Dr. Fenner H. Peckham, he received his education at the Mowry and Goff School, Providence, and the College of Physicians and Surgeons, New York, from which he received his M.D. in 1890. Dr. Peckham started his practice of medicine with his father, and after the latter's death took up his practice. He devoted himself largely to internal medicine.

BUFFUM—DR. HERBERT EDWIN BUFFUM, Supervising Censor of the Middlesex South District Medical Society, died at his home in Somerville, August 25, 1927, aged 55.

He was born in Somerville, January 25, 1872, educated in the schools of his native city and at Harvard Medical School, where he received his M.D. in 1897. Following graduation Dr. Buffum was house officer at Boston City Hospital and then began practice in Somerville. There he was a member of the Somerville Medical Society. He joined the Massachusetts Medical Society in 1898 and was a councilor at the time of his death.

He is survived by his widow, Mrs. Helen G. Buffum, and by one daughter.

CONE—DR. DWIGHT ELEAZER CONE, a retired member of the Massachusetts Medical Society, practitioner of Fall River, died of apoplexy at the annual outing of the Fall River Azab Grotto, at Swansea, August 31, 1927, at the age of 73.

Born in New Berlin, N. Y., in 1854, he was graduated from New York University Medical College in 1876 and moved to Fall River in 1883. He was a member of various Masonic societies.

Dr. Cone is survived by his second wife, Abbie (Sias) Cone; two daughters, Mrs. Charles Hambly of Newport, R. I., and Mrs. William Brickworth of Providence, R. I., and a stepson, Dr. S. Virgil Merritt, surgeon of the Fall River Police Department, a Fellow of the Massachusetts Medical Society.

DISEASE INCIDENCE IN CONNECTICUT
WEEK ENDING AUGUST 13

DISEASE	1927					1926			
	Week ending July 23	Week ending July 30	Week ending August 6	Week ending August 13	Average cases reported for week corresponding to Aug.13 for past seven years.	Week ending July 24	Week ending July 31	Week ending August 7	Week ending August 14
Actinomycosis	-	-	-	-	-	-	-	-	-
Anthrax	-	-	-	-	-	-	-	-	-
Botulism	-	-	-	-	-	-	-	-	-
Cerebrospinal Meningitis	1	-	-	1	-	-	1	-	-
Chickenpox	30	33	21	15	4	18	9	12	5
Conjunctivitis Infec.	-	-	-	-	-	-	-	-	-
Diphtheria	16	23	17	33	23	9	9	16	14
Dysentery, Amoebic	-	-	-	-	-	-	-	-	-
Dysentery, Bacillary	-	-	-	-	1	1	-	-	1
Encephalitis, Epidemic	-	-	-	2	-	-	-	-	-
Favus	-	-	-	-	-	-	-	-	-
German Measles	2	-	-	-	-	2	4	2	1
Hookworm Infection	-	-	-	-	-	-	-	-	-
Influenza	2	3	1	-	1	-	1	5	4
Leprosy	-	-	-	-	-	-	-	-	-
Malaria	-	-	3	2	1	-	-	-	-
Measles	21	10	19	6	19	48	25	78	15
Mumps	6	6	14	1	4	3	3	-	4
Paratyphoid Fever	-	-	-	2	-	-	1	-	-
Pneumonia (Broncho)*	15	8	9	6	10*	7	16	6	15
Pneumonia (Lobar)	10	5	8	5	6	12	9	7	15
Poliomyelitis	-	1	11	8	4	-	2	1	1
Scarlet Fever	11	10	10	8	20	21	16	15	14
Septic Sore Throat	-	-	-	1	30	-	2	2	192
Smallpox	-	-	-	-	-	-	-	-	-
Tetanus	1	1	-	-	-	-	1	-	-
Trachoma	-	-	-	-	-	-	-	-	-
Trichinosis	-	-	-	-	-	-	-	-	-
Tuberculosis (Pul)	35	85	30	24	27	35	27	28	40
Tuberculosis (o.f.)	1	4	7	2	3	1	1	1	6
Typhoid Fever	2	3	1	3	12	2	4	7	13
Typhus Fever	-	-	-	-	-	-	-	-	-
Whooping Cough	27	26	47	33	48	45	32	30	37
Gonorrhoea	18	26	40	32	18	11	56	19	47
Syphilis	9	37	81	24	17	7	42	12	12

*Average for two years. Made reportable Jan. 1, 1925.
Remarks: No cases of cholera, Asiatic, glanders, plague, rabies in humans and yellow fever during the past seven years.

DISEASE INCIDENCE IN CONNECTICUT
WEEK ENDING AUGUST 20

DISEASE	1927					1926			
	Week ending July 30	Week ending August 6	Week ending August 13	Week ending August 20	Average cases reported for week corresponding to Aug.20 for past seven years.	Week ending July 31	Week ending August 7	Week ending August 14	Week ending August 21
Actinomycosis	-	-	-	-	-	-	-	-	-
Anthrax	-	-	-	-	-	-	-	-	-
Botulism	-	-	-	-	-	-	-	-	-
Corebrospinal Meningitis	-	-	1	-	1	1	-	-	1
Chickenpox	33	21	15	10	4	9	12	5	5
Conjunctivitis Infectious	-	-	-	-	-	-	-	-	-
Diphtheria	23	17	33	15	18	9	16	14	8
Dysentery, Amoebic	-	-	-	-	-	-	-	-	-
Dysentery, Bacillary	-	-	-	-	-	-	-	1	-
Encephalitis, Epidemic	-	-	2	1	-	-	-	-	-
Favus	-	-	-	-	-	-	-	-	-
German Measles	-	-	-	-	2	4	2	1	3
Hookworm Infection	-	-	-	-	-	-	-	-	-
Influenza	3	1	-	1	-	1	5	4	2
Leprosy	-	-		-	-	-	-	-	-
Malaria	-	3	2	-	2	-	-	-	1
Measles	10	19	6	6	14	25	78	15	13
Mumps	6	14	1	3	3	3	-	4	2
Paratyphoid Fever	-	-	2	-	-	1	-	-	2
Pneumonia (Broncho)*	8	9	6	1	7*	16	6	15	5
Pneumonia (Lobar)	5	8	5	12	5	9	7	15	11
Poliomyelitis	1	11	8	17	3	2	1	1	1
Scarlet Fever	10	10	8	13	14	16	15	14	14
Septic Sore Throat	-	-	1	-	5	2	2	192	30
Smallpox	-	-	-	-	2	-	-	-	-
Tetanus	1	-	-	1	-	1	-	-	2
Trachoma	-	-	-	-	-	-	-	-	1
Trichinosis	-	-	-	-	-	-	-	-	-
Tuberculosis (Pul)	85	30	24	25	27	27	28	40	29
Tuberculosis (o.f.)	4	7	2	2	3	1	1	6	1
Typhoid Fever	3	1	3	5	11	4	7	13	4
Typhus Fever	-	-	-	-	-	-	-	-	-
Whooping Cough	26	47	33	28	45	32	20	37	25
Gonorrhoea	26	40	32	34	13	56	19	47	18
Syphilis	37	81	24	64	11	42	12	12	20

*Average for two years. Made reportable January 1, 1925.

Remarks: No cases of cholera, Asiatic, glanders, plague, rabies in humans and yellow fever during the past seven years.

DISEASE INCIDENCE IN CONNECTICUT
WEEK ENDING AUGUST 27

DISEASE	1927					1926			
	Week ending August 6	Week ending August 13	Week ending August 20	Week ending August 27	Average cases reported for week corresponding to Aug.27 for past seven years.	Week ending August 7	Week ending August 14	Week ending August 21	Week ending August 28
Actinomycosis	-	-	-	-	-	-	-	-	-
Anthrax	-	-	-	-	-	-	-	-	-
Botulism	-	-	-	-	-	-	-	-	-
Cerebrospinal Meningitis	-	1	-	-	1	-	-	1	-
Chickenpox	21	15	10	2	2	12	5	5	3
Conjunctivitis Infectious	-	-	-	-	-	-	-	-	3
Diphtheria	17	33	15	19	25	16	14	8	10
Dysentery, Amoebic	-	-	-	-	-	-	-	-	-
Dysentery, Bacillary	-	-	-	-	-	-	1	-	-
Encephalitis, Epidemic	-	2	1	-	2	-	-	-	1
Favus	-	-	-	-	-	-	-	-	-
German Measles	-	-	-	1	2	2	1	3	2
Hookworm Infection	-	-	-	-	-	-	-	-	-
Influenza	1	-	1	1	1	5	4	2	-
Leprosy	-	-	-	-	-	-	-	-	-
Malaria	3	2	-	-	-	-	-	1	-
Measles	19	6	6	11	12	78	15	13	10
Mumps	14	1	3	6	3	-	4	2	1
Paratyphoid Fever	-	2	-	1	-	-	-	2	-
Pneumonia (Broncho)*	9	6	1	6	8*	6	15	5	6
Pneumonia (Lobar)	8	5	12	7	6	7	15	11	2
Poliomyelitis	11	8	17	12	5	1	1	1	1
Scarlet Fever	10	8	13	8	17	15	14	14	8
Septic Sore Throat	-	1	-	2	4	2	192	30	24
Smallpox	-	-	-	-	-	-	-	-	-
Tetanus	-	-	1	1	-	-	-	2	-
Trachoma	-	-	-	-	-	-	-	1	-
Trichinosis	-	-	-	-	-	-	-	-	-
Tuberculosis (Pul)	30	24	25	14	34	28	40	29	25
Tuberculosis (o.f.)	7	2	2	1	1	1	6	1	-
Typhoid Fever	1	3	5	2	14	7	13	4	4
Typhus Fever	-	-	-	-	-	-	-	-	-
Whooping Cough	47	33	28	74	60	20	37	25	21
Gonorrhoea	40	32	34	12	17	19	47	18	18
Syphilis	81	24	64	40	16	12	12	20	19

*Average for two years. Made reportable January 1, 1925.

Remarks: No cases of cholera, Asiatic, glanders, plague, rabies in humans and yellow fever during the past seven years.

CONNECTICUT DEPARTMENT OF HEALTH

MORBIDITY REPORT FOR THE WEEK ENDING SEPTEMBER 3, 1927

Diphtheria	8	German measles	1
Last week	19	Influenza	2
Typhoid fever	3	Malaria	2
Last week	2	Mumps	2
Scarlet fever	3	Pneumonia, lobar	8
Last week	8	Poliomyelitis	19
Whooping cough	32	Tetanus	1
Last week	74	Tuberculosis, pulmonary	17
Measles	4	Tuberculosis, other forms	4
Last week	11	Gonorrhea	41
Bronchopneumonia	17	Syphilis	58
Chickenpox	11		
Dysentery, bacillary	1		
Encephalitis, epidemic	1		

NEWS ITEMS

GIFT TO THE MEMORIAL HOSPITAL—The Memorial Hospital affiliated with the Cornell Medical School has received from John D. Rockefeller, Jr., a gift of $60,000 a year for five years. The gift is to be used for laboratory and clinical research, the education of specialists to diagnose early cancer and for the improvement of the staff.

APPOINTMENTS BY THE ROYAL COLLEGE OF PHYSICIANS AND SURGEONS—It has been reported that the Royal College of Physicians and Surgeons has made the following appointments: To deliver the Harveian Oration, Sir Humphry Rolleston; the FitzPatrick Lecture, Dr. G. F. Still; the Lumleian Lecture, Dr. J. S. Collier; the Oliver Sharpey Lecture, Dr. E. P. Poulton; the Croonian Lecture, Dr. H. H. Dale; and the Goulstonian Lecture, Dr. T. Izod Bennett. All of these appointments are for 1928 with the exception of Dr. H. H. Dale, who has been appointed for 1929.

NEW MEMBERS OF THE FOOD STANDARDS COMMITTEE—The Food Standards Committee will include among its members Dr. R. W. Balcom, chemist in charge of the food control laboratory of the United States Department of Agriculture, and A. S. Mitchell of the Food, Drug and Insecticide Administration. There are three representatives of the department on that committee.

NOTICES

REMOVAL

DR. JOHN BONFIGLIO, 4 Chelsea Street, East Boston, Mass., has moved to 155 North Stanley Drive, Beverly Hills, California.

DR. JUANITA P. JOHNS has moved her office to 220 Clarendon St., Boston.

DR. JOHN A. TURNBULL has moved his office to 99 Bay State Road, Boston, Massachusetts.

THE ENFORCEMENT OF THE NEW POISON ACT

HEARINGS will be held September 20, 1927, at 10:30 A. M., at 216, 13th St., S. W., Washington, D. C., by the Food Drug and Insecticide Administration with respect to the enforcement of the Federal Caustic Poison Act which was passed March 4, 1927.

The administration will receive comments in lieu of personal appearance if any one sufficiently interested is unable to attend the hearings. Tentative regulations have been prepared by the Department of Agriculture.

A CORRECTION

IN referring to the nomination of Dr. Frederick R. Barnes of Fall River for the position of Medical Examiner, we were incorrectly informed of the source of his degree in medicine.

Dr. Barnes graduated from the University of Pennsylvania School of Medicine in 1913.

UNITED STATES CIVIL SERVICE EXAMINATION

The United States Civil Service Commission announces the following open competitive examination:

Bacteriologist

Applications for bacteriologist must be on file with the Civil Service Commission at Washington, D. C., not later than October 4.

The examination is to fill vacancies in the Bureau of Food, Drug, and Insecticide Administration, Department of Agriculture, Washington, D. C., and in positions requiring similar qualifications.

The entrance salary is $3,800 a year. A probationary period of six months is required; advancement after that depends upon individual efficiency, increased usefulness, and the occurrence of vacancies in higher positions.

The duties will be to determine the bactericidal and antiseptic properties of commercial disinfectants and antiseptics and of products used in their manufacture; research work in connection with problems relating to the properties and application of commercial disinfectants and antiseptics.

Full information may be obtained from the United States Civil Service Commission, Washington, D. C., or the secretary of the Board of United States Civil Service Examiners at the postoffice or custom house in any city.

UNITED STATES PUBLIC HEALTH SERVICE

CHRONOLOGICAL LIST OF CHANGES OF DUTIES AND STATIONS OF COMMISSIONED AND OTHER OFFICERS OF THE UNITED STATES PUBLIC HEALTH SERVICE

AUGUST 3, 1927

Surgeon T. B. H. Anderson—Directed to proceed from New Orleans, La., to such places in the flooded area in Louisiana as necessary for temporary duty—July 27, 1927.

Assistant Surgeon J. F. Van Ackeren—Relieved from duty flooded area New Orleans, La., and directed report M. H. No. 14, New Orleans, La., for duty—July 29, 1927.

Professor C. W. Stiles—Directed to proceed from Washington, D. C., to Budapest, to represent Service at Tenth International Zoological Congress—July 30, 1927. (No expense to Government.)

Surgeon F. A. Carmelia—Directed to proceed from Washington, D. C., to Milford, Del., and return to inspect quarantine tugs—August 1, 1927.

Surgeon L. L. Williams, Jr.—Directed to proceed to Washington, D. C. (and return to Richmond), for conference regarding malaria studies—August 2, 1927.

Surgeon L. L. Lumsden—Directed to proceed from Washington, D. C., to Boston, Mass., and such other places in the State of Massachusetts as may be necessary to confer with State and local officials regarding demonstrations and studies of rural sanitation—August 2, 1927.

Assistant Surgeon E. R. Pelikan—Relieved from duty at San Francisco, Calif., and assigned to duty at Manila, P. I., effective August 20, 1927—August 2, 1927.

Assistant Surgeon F. C. Stewart—Relieved from duty at Angel Island, Calif., and assigned to duty at Hong Kong, China, effective August 20, 1927—August 2, 1927.

Assistant Surgeon C. B. Stacy—Relieved from duty at Little Rock, Ark., and assigned to M. H. No. 13, Mobile, Ala., for duty—August 2, 1927.

A. A. Surgeon B. A. Wight—Relieved from duty at Baltimore, Md., and assigned to duty at M. H. No. 21, Stapleton, N. Y.—August 3, 1927.

BOARDS CONVENED

The following boards convened to meet at the following named places August 15, 1927, for the purpose of determining the physical eligibility of candidates for appointment as temporary ensign in the United States Coast Guard—August 1, 1927:

Detail for the board, San Francisco, Calif.: Surgeon R. W. Hart, Assistant Surgeon G. G. Holdt.

Detail for the board, New London, Conn.: Surgeon C. P. Knight, A. A. Surgeon H. A. Tyler.

AUGUST 31, 1927

Surgeon W. H. Slaughter—Directed to proceed from Galveston, Tex., to Freeport, Tex., and return, in connection with quarantine activities—August 23, 1927.

Surgeon W. T. Harrison—Directed to proceed on August 26 from Washington, D. C., to Philadelphia and Swiftwater, Pa., and return, to inspect certain laboratories—August 24, 1927.

Surgeon G. W. McCoy — Directed to proceed on August 24 from Washington, D. C., to Wheeling, W. Va., and return, for conference with State and local health authorities relative to an outbreak of poliomyelitis—August 24, 1927.

Surgeon Friench Simpson — Directed to proceed from Mobile, Ala., to New Orleans, La., and return, to serve as chairman of a board—August 24, 1927.

Surgeon H. E. Trimble—Directed to represent the Service at the annual meeting of the American Academy of Ophthalmology and Otolaryngology to be held in Detroit, Mich., September 12-16, 1927—August 25, 1927.

Acting Assistant Surgeon L. O. Spencer—Directed to proceed from New Orleans, La., to Picher, Okla., for assignment to duty with the Bureau of Mines—August 25, 1927.

Passed Assistant Surgeon M. V. Veldee—Relieved from duty at Copenhagen, Denmark, and directed to proceed to Washington, D. C., and report to the Surgeon General for duty—August 26, 1927.

Surgeon L. P. H. Bahrenburg—Relieved from duty at Cleveland, Ohio, and directed to proceed to Copenhagen, Denmark, for duty in the office of the American Consul—August 26, 1927.

Surgeon F. A. Carmelia—Directed to proceed from Washington, D. C., on August 30, to Milford, Del., and return, for the purpose of inspecting quarantine tugs under construction at that place—August 27, 1927.

Assistant Surgeon General J. W. Kerr—Relieved from duty as Assistant Surgeon General in charge of the Division of Personnel and Accounts of the Bureau, and directed to undertake special studies relating to the public health, establishing headquarters for this purpose at Washington, D. C.—August 29, 1927.

Assistant Surgeon General C. C. Pierce—Relieved from duty as Assistant Surgeon General in charge of the Division of Sanitary Reports and Statistics of the Bureau, and detailed, effective September 1, 1927, as Assistant Surgeon General in charge of the Division of Personnel and Accounts—August 29, 1927.

BOARDS CONVENED

A board of officers convened to meet at United States Marine Hospital No. 14, New Orleans, La., at the call of the chairman, for the investigation of matters relating to property at that station—August 24, 1927. Detail for the board: Surgeon Friench Simpson, Surgeon D. C. Turnipseed.

A board of officers convened to meet at Montreal, Canada, at the call of the chairman, for the purpose of examining an alien—August 25, 1927. Detail for the board: Surgeon Louis Schwartz, chairman; A. A. Surgeon A. G. Morphy, member; A. A. Surgeon F. H. Mackay, recorder.

PROMOTIONS

Samuel B. Grubbs promoted and commissioned in the grade of Senior Surgeon, effective August 13, 1927.

Milton H. Foster promoted and commissioned in the grade of Senior Surgeon, effective September 11, 1927.

Official:

H. S. CUMMING, *Surgeon General.*

REPORTS AND NOTICES OF MEETINGS

DR. BERNARD HART THE GUEST OF THE MASSACHUSETTS PSYCHIATRIC SOCIETY AND THE BOSTON SOCIETY OF PSYCHIATRY AND NEUROLOGY

A DINNER in honor of Dr. Bernard Hart, the distinguished English psychiatrist, was held at the University Club, Tuesday evening, Aug. 30. About seventy members of the Massachusetts Psychiatric Society and the Boston Society of Psychiatry and Neurology attended. Dr. Abraham Myerson, President of the Massachusetts Psychiatric Society, acted as toastmaster. Dr. Hart and Dr. Morton Prince spoke informally.

1927 ANNUAL CONFERENCE OF THE NATIONAL COMMITTEE FOR THE PREVENTION OF BLINDNESS IN CO-OPERATION WITH THE ILLINOIS SOCIETY FOR THE PREVENTON OF BLINDNESS IN CHICAGO, ILLINOIS, OCTOBER 13-15, 1927

PRELIMINARY PROGRAM

Thursday, October 13

Subjects for discussion:

9:30 A. M.—Relation of Venereal Diseases to Vision Impairment. Joint Session with the Illinois Social Hygiene League.

2 P. M.—Relation of Proper Lighting to Conservation of Vision. Joint Session with the Illuminating Engineering Society.

Friday, October 14

9:30 A. M.—Eye Accidents in Industry. Joint Session with the National Safety Council.

12 M.—Luncheon Conference on Eye Hazards

in Industrial Occupations. Topic: "Face to Face with the Blind Man."

2 P. M.—Facilities for Correcting Remediable Eye Defects in Chicago School Children. Joint Session with the Illinois Society for the Prevention of Blindness. Visits to sight-saving classes and pre-school demonstrations.

8:15 P. M.—Ophthalmology in Relation to Prevention of Blindness. Joint Session with the Chicago Ophthalmological Society.

Saturday, October 15

9:30 A. M.—Sight-Saving Classes: Their Rôle in Conservation of Vision.

12 M.—Luncheon Conference on Sight-Saving Classes.

2 P. M.—Trachoma as a Public Health Problem. Joint Session with the Standing Committee on Conservation of Vision of the Conference of State and Provincial Health Authorities of North America.

4 P. M.—Round Table Discussions on Sight-Saving Classes. Topics: To be designated in Final Program.

BOOK REVIEWS

The Normal Chest. By J. A. Myers, M.D. Published by Williams & Wilkins Co., Baltimore, Md.

This volume of 419 pages, attractively printed, with many diagrams, tables, plates of all kinds, as its title implies takes up the normal chest of the adult and child from various angles. The author has written this in collaboration with Professors White, Scammon, Rasmussen, Stewart and Fahr, Professors of Anatomy, Neurology and Pediatrics, University of Minnesota, respectively.

It is a volume evidently intended for investigators, teachers and advanced students. It consists of 12 chapters; the first two take up the anatomy of the chest, the third the physiology of the chest, fourth and fifth, examination of the normal chest including the heart and great vessels, and sixth x-ray examination of the normal chest, the seventh is chiefly statistical, taking up the body and chest measurements and vital capacity. In Chapter VIII he discusses the importance of systematic examinations; Chapter IX, the normal chest in infancy and childhood; Chapter X, innervation of the chest; XI, the developmental anatomy of the chest and thoracic organs; XII, acoustics of percussion and auscultation.

To the clinician and general practitioner, Chapters IV, V and VI, giving practical points on the examination of the chest in adults and the Chapter considering the same subject in childhood are of chief value. To demonstrate my statement that this book is chiefly for advanced students and teachers, on page 181 is a table giving the sizes of the heart in four groups of patients, one the *asthenic,* two, the *hyposthenic,* three, *sthenic,* four, *hypersthenic* carditis. I admit frankly that these four terms mean absolutely nothing to me and I doubt if they mean anything more to 90 per cent of physicians. On the other hand, in his Chapter on the examination of the chest of children his advice in regard to the comparatively little value of interscapular and parasternal dullness and of D'Espine's sign is refreshing. Again, however, he puts more value on the outlining of Kroenig's Isthmus than is necessary. The last Chapter on the acoustics of percussion and auscultation deals with the physiology of sound and is beyond the scope of the general practitioner.

For those for whom this book is evidently intended, it is of real value, but to the clinician it is not of great help.

Lippincott's Pocket Formulary. By George E. Rehberger, M.D. Philadelphia and London. J. B. Lippincott Company. 1927.

This is a pocket-size volume composed for the most part of prescriptions suggested for use in diseases listed alphabetically. In addition to these prescriptions, however, there is given for each disease an abbreviated statement of the essentials of the treatment otherwise than by prescriptions. In form this small volume does not differ greatly from a number of others but the reviewer is pleased to note that whereas many other formularies seem to have been prepared perfunctorily and have contained undesirable or obsolete recommendations this volume is eminently sound in its advice and consistent with present-day teaching. This is particularly true of the summaries of the general principles of treatment although these are somewhat obscured by the much greater space devoted to formulae. In addition to the alphabetical list of diseases and their treatment there are extensive tables of the drugs and chemicals of the U. S. P. of the National Formulary and, very usefully, of New and Non-official Remedies. The book can be recommended as a ready reminder of the essentials of treatment which is more reliable than previous similar manuals.

Venereal Disease, Its Prevention, Symptoms and Treatment. By Hugh Wansey Bayly, M.C. London. Third Edition. 1927. Published by Faber and Gwyer, Ltd. 242 pages.

A synopsis of venerology. The book is short, well written and clear. It brings methods of treatment up to date and should be of considerable value to the student and general practitioner.